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UNITED STATES DEPARTMENT OF AGRICULTURE

CONSUMER AND MARKETING SERVICE

MEAT INSPECTION DIVISION

**Manual of
MEAT INSPECTION
PROCEDURES
of the
United States
Department of Agriculture**



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1. Inspection of animal foods (9 CFR 155)		
2. Identification and certification service for meat and other products (9 CFR 40)		
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7.5	Time reasonably employed by inspectors in making out reports connected with post-mortem examination may, when involving overtime work, be compensated for on an overtime basis. No overtime compensation is paid for work involving less than 15 minutes.	
7.6	Supervisory inspectors will advise employees on matters relative to personal safety and the control and prevention of accidents. Division employees are not expected to initiate safety programs involving the employees of official establishments, but Division employees in supervisory capacities should include attention to safety factors when giving advice to establishments concerning plant facilities.	
7.7	Information on equipment and facilities for the sanitary conduct of operations and inspection should be obtained from the pamphlet, "U. S. Inspected Meat Packing Plants."	

PART 8—SANITATION

- 8.1 The booklet, "U. S. Inspected Meat Packing Plants," concerns sanitary construction and equipment.

8.2 (a) Inspectors in charge are expected to assure that potable water from an approved supply is used in edible products departments and in associated areas.

(b) Before the water supply is accepted full consideration should be given to its source and the distribution system within the plant.

(1) Water from an approved public supply may be regarded as acceptable as delivered to the establishment.

(2) When the establishment uses a private water supply a report on the bacterial quality of the water taken inside the plant should be required at least every 6 months or at any other time the inspector has reason to question the condition of the water. The report should cover an examination of water, taken at a location specified by the inspector and examined by the local health agency having jurisdiction over the water supply in the area at the request of the establishment.

(c) Water may become nonpotable as it is distributed in the plant. Therefore, inspectors should give regular attention to the condition of all storage facilities and pipelines in the establishment. Hazards such as dead ends of pipelines, improper cross connections between potable and nonpotable water and the absence of anti-back siphonage devices should be eliminated. Where use of nonpotable water is permitted for certain purposes, its use must be accompanied by adequate safeguards to assure that it cannot possibly come in contact with edible product or pollute the potable water supply.

(d) The identification of pipelines according to use will aid the inspector in preventing product contamination. The establishment should use either the following recommended identification system or any other acceptable to the inspector in charge.

Fire lines	Red	Potable water lines	Green
Sewer lines	Black	Non-potable water lines...	Black
Brine lines	Black	Inedible product lines ...	Black plus name
Gas lines	Yellow	Ammonia lines	Blue
Air lines	White	Edible product lines	Green plus name
		Curing pickle lines	Green plus name

8.3 (a) The following materials have been accepted for use in official establishments for general cleaning:

Sodium carbonate	Tetrasodium pyrophosphate
(soda ash, sal soda)	Tripolyphosphates
Sodium hydroxide	Soap
(caustic soda, sodium hydrate)	Lime
Sodium metasilicate	Synthetic detergents
Sodium bicarbonate	(wetting agents)
Trisodium phosphate	Borates (if with strong alkalis
Sodium metaphosphate	and not in an excess of 5%)

(c) The hollow aluminum emptying plug in some silent cutters has a pan in the bottom and is held in place with small stove bolts seated in the body of the plug. At times, these become loose and disappear. Continued use of the chopper causes the meat juices and particles of meat to get into the plug proper. The pan can be removed leaving the opening, which can then be properly cleaned. The packing nut at the top has a gasket and cap to keep grease out of products. To make this packing nut more secure, cap screws should be used, and the thread ends drilled permitting them to be held in place by a wire, thus eliminating any chance for metal to get into meat products.

(d) Covers to clean-out openings of sausage-stuffing machines should be removed at frequent intervals and the interior of the stuffers examined to determine the need for cleaning. The frequency with which the covers are removed and the interiors examined and cleaned depends on the kind of product handled. Particular attention should be given to the interior of stuffers. If particles of meat, fat, liquids, and the like are found, the gasket is worn, defective, or improperly adjusted, and permits material to by-pass the piston. When such a condition is found, the piston should be "pulled" in order that proper adjustment can be made and the gasket replaced if necessary.

The frequency with which pistons should be pulled depends largely on the condition found on the interior of the cylinder as observed through the clean-out openings and from the top when the piston is in the "down," or loading, position. The kind and consistency of product for which the stuffer is used will have a bearing on the frequency of pulling the piston for thorough cleaning. Thus, a stuffer used for a more or less stiff and coarse product would not ordinarily need to have the piston pulled as often as a stuffer used for a soft or pastelike product, providing the gasket, piston, and cylinder walls are in good condition. When pistons are pulled they should be examined for (1) any appreciable degree of deterioration of the gaskets or any detached fragments that might find their way into product; (2) accumulation and possible decomposition of product beneath the gasket or in the space between the piston and the cylinder wall; and (3) any other unsanitary condition that might be present. Attention should also be given to a possible accumulation of product beneath the overhanging edge of the safety ring bolted to the top of the cylinder. Pistons consisting of two (upper and lower) pieces should likewise be given attention at the time they are removed from the cylinder to determine whether any product or material has found its way into their interior.

When compressed air is used to operate a stuffer or other edible processing equipment, an effective filter should be installed in the air intake so that only filtered air enters the compressor. The compressed air storage tank should be equipped with a drain so that accumulated oil and moisture can be drained away frequently. Water and oil traps should be installed in the air lines between the compressed air storage tank and the stuffer. It is desirable that the spent air be exhausted outside the building so that fine particles of oil and moisture do not permeate the air in the sausage-stuffing department.

(e) The stainless steel strips on the base of some bacon slicing machines do not fit tightly, and some fat and meat juices work their way under the strips and become sour or rancid. These strips can be removed and the area under them cleaned. The strips can then be welded to the base with a stainless steel weld which is ground smooth and polished. Also the guide rod for the meat holder on some bacon-slicing machines has a recessed area at one end in which a certain amount of fat and grease accumulates. The guide rod should be removed as often as necessary to maintain proper sanitation, and the recessed area should be properly cleaned daily.

(f) The construction of gate valves used on the lower openings of edible rendering tanks permits passage of a considerable amount of meat tissues, bone fragments, fats, and the like into the valve bonnet. To assure sanitary maintenance of this type of gate valve the inner parts of the bonnet must be flushed daily. Furthermore, the valves must be completely dismantled as often as necessary for thorough cleaning and inspection. Several acceptable methods of installing openings into valve bonnets for daily flushing with hot water and/or steam have been devised. Combination steam and hot water lines may be permanently connected to the bonnets; however, if this is done adequate precautions to prevent back-siphonage into the potable water supply are necessary. Gate valves used for the purpose described above should be provided with similar facilities for daily clean-out and a program of dismantling as often as necessary should be initiated without delay.

(g) Expellers used in rendering of edible products must be cleaned thoroughly following use. All parts of this equipment should be accessible for cleaning and inspection. To accomplish this, it has been found necessary to require removal of the plates forming the barrel around the press worm. Also, demounting or providing clean-out and inspection openings in the feeding mechanism has been found necessary.

(h) Disease transmitted through meat food products frequently originates from an infected meat handler. A wide range of communicable diseases and infections may be transmitted by food handlers to other employees and consumers through contaminated meat food products and careless handling practices. Boils, infected cuts and sore throats are sources of organisms which cause staphylococcal food intoxication, the most frequently reported type of food-borne disease.

- 8.14 Part 8.14 of the Meat Inspection Regulations identifies responsibility of operators of official establishments to see that no person who is affected with any disease in a communicable form works in any area of a packing establishment where there is likelihood of disease transmission. The operators of meat packing establishments are required to assume the responsibility for prompt reporting of all suspect cases of communicable disease among their employees to local health authorities.

Equipment—Care, Reconditioning

- 8.15 (a) Properly equipped tables, sprays, and the like should be furnished wherever necessary for cleaning product that has accidentally become soiled.

(b) Equipment should be provided for receiving trolleys, gambrels, sticks, and smoke sticks for transfer to a suitably equipped place for cleaning before reuse.

(c) Since ozone affects the sense of smell and also masks odors, thereby interfering with inspection, use of lamps or equipment that produce ozone in such quantity as to interfere with inspection is prohibited in official establishments other than in coolers set aside for the so-called quick-aging of beef.

(d) Unnecessary pipes, wires, strings, and other material should be removed and no trash should be allowed to accumulate.

(e) Cutting boards should be as small as is practical for the purpose. Such boards should be kept smoothly planed and removed daily for cleaning on all surfaces.

(f) Carcass shroud cloths should be thoroughly rinsed following washing to assure the removal of all soap or detergent compound.

(g) Storage compartments of "snow-ice," "flake-ice," "pac-ice," and similar equipment should be lined with stainless steel or other rust-resisting metal. The metal should be of sufficient thickness to withstand repeated striking of a shovel without puncturing. Suitable perforated, rust-resisting, and removable metal drainage plates should be provided in the bottom of the ice storage compartment, and frequently inspected to assure their cleanliness. Some of the equipment used for the production of various forms of flaked ice is so constructed that the water resulting from the melted ice is collected in a space below the ice storage compartment. This water may not be used for the production of ice nor should it be permitted in potable water lines or supply. There is no objection to prechilling the water intended for the manufacture of ice by circulating it in closed coils submerged in the cold water beneath the storage compartment.

(h) Corrosion on galvanized metal equipment may be prevented by frequent thorough cleaning followed by a light application of colorless, odorless, paraffin oil. Equipment that is to come in contact with product should be washed before it is used, in order to remove excess oil.

(i) Wooden second-hand containers that have been reconditioned prior to receipt at an establishment should not be accepted for use since it is impossible to give the inspection necessary to determine fitness for use as contemplated in section 8.12(a) of the Meat Inspection Regulations. Wooden containers are frequently used in industry for various chemicals and insecticides, some of which are highly poisonous. Containers previously used to hold food may contain vermin excreta and decomposed material consisting largely of food spoilage organisms and dangerous toxins. As the complete removal of dangerous substances cannot be accomplished with certainty from containers made of porous material such as wood, such containers that show evidence of dangerous contamination should be rejected.

(j) Second-hand containers made of nonporous material, such as steel drums, may be reconditioned without prior inspection; however, inspectors should examine such containers very carefully to determine that effective cleaning and preparation for use has been accomplished. The inspection would include—

(1) Wiping the inner surface of the container with a clean white cloth or towel to determine whether all former contents have been removed.

(2) Looking for a spotted appearance of the inner surface which may be an indication that the new lining will not adhere over improperly cleaned old linings or rusty surfaces.

(3) Looking for dents in chime and sides of drum. These areas should be free from damage that would interfere with satisfactory cleaning and inspection. In determining the acceptability of steel drums, inspectors should apply the usual product container requirements for cleanliness and absence of probable sources of contamination. The acceptability of the coating on the inner surface of any metal container can be determined by obtaining from the management the name of the lining material; name and address of the firm that applied the coating, and forwarding this information to the Meat Inspection Division, Washington, D. C. 20250.

(k) Inspectors should give close attention to the reconditioning of wooden curing vats where such equipment is still used. After being emptied, the vats should be flushed with water and removed from the curing department. All splinters, blisters, badly discolored wood and ridges should be removed from the inner surface of the vat and a smooth clean inner surface should be obtained. The outer surface of the vat should be smooth with the hoops free from corrosion. Badly rusted hoops should be replaced with new galvanized or stainless steel hoops. After the inner and outer surfaces of the vat have been properly smoothed, it should be flushed with clean water and steam to remove particles of wood and dust. A suitable truck should be used for returning the vats to the curing department since rolling the vats on the floor results in contamination of the outer surface and top of the vat.

Paraffined paper cups have been used to close the bung hole of reclaimed or second-hand barrels and tierces to prevent contamination of the interior.

- 8.16 The series of poster, "Hy'n Gene", are presented to help develop an awareness of sanitary practices necessary to assure a clean, wholesome meat supply. The posters should be displayed prominently on bulletin boards and in operating departments and welfare facilities of official establishments, in order that those engaged in food handling may be aided in carrying out the ideas expressed therein.

PART 9——ANTE-MORTEM INSPECTION

- 9.1 (a) The importance of ante-mortem inspection, as required by Part 9 of the Federal Meat Inspection Regulations, cannot be overemphasized. Ante-mortem inspection (1) aids in eliminating those animals having conditions undetectable on post-mortem inspection, (2) prevents the unnecessary contamination of the slaughtering department by eliminating obviously unfit animals, (3) furnishes added information necessary for proper disposition of carcasses on post-mortem inspection, and (4) provides an opportunity to identify symptoms from misuse of drugs, pesticides, arsenic, lead, etc. The establishment is required to provide the necessary equipment, facilities and assistance to enable the inspector to perform an effective ante-mortem inspection. Part 9 of the Meat Inspection Regulations clearly identifies those animals required to be "suspected" or "condemned."

The selection of those animals showing abnormal conditions, the supervision of their segregation and the preliminary remarks on the Form MI-402-2, when required, shall either be performed by a veterinary meat inspector or a meat inspector under the general supervision of a veterinary meat inspector. However, the final diagnosis and disposition on ante-mortem inspection of suspect and condemned animals must be made by a veterinarian.

While attention must be given to all abnormal animals, the veterinarian should give particular attention to the so-called "downer" animals. "Downers" that are not bright and alert are not acceptable for slaughter. In some cases these animals appear normal and their being down is attributed to an injury; therefore, they are permitted to be slaughtered as suspects. However, in a few cases no apparent cause for the animal being down is detected on post-mortem examination. In such cases, specimens may be submitted to the Biological Sciences Laboratory to assist the veterinarian in making the proper disposition. The veterinarian must make use of every available resource to assure only wholesome products are identified as "U. S. Inspected and Passed."

- (b) The management of the official establishment is expected to make such provisions as are necessary to enable the inspector to

perform an efficient ante-mortem inspection of all animals on the day of slaughter. This includes furnishing competent help, adequate light, conveniences for inspection (properly arranged chutes and properly identified pens for segregating suspects and condemned animals), and thermometers for taking temperatures. Ante-mortem inspection (1) aids in eliminating those animals having conditions undetectable on post-mortem inspection, (2) prevents the unnecessary contamination of the slaughtering department by eliminating obviously unfit animals, (3) furnishes added information necessary for proper disposition of carcasses on post-mortem inspection, and (4) provides an opportunity to identify symptoms from misuse of drugs, pesticides, arsenic, lead, etc. The establishment is required to provide the necessary equipment, facilities and assistance to enable the inspector to perform an effective ante-mortem inspection. Part 9 of the Meat Inspection Regulations clearly identifies those animals required to be "suspected" or "condemned".

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9.2 Insofar as it is practical, animals should be inspected both while at rest and while in motion.

9.3 A reactor to the tuberculin test that has died otherwise than by slaughter or that is condemned on ante-mortem inspection should be given a post-mortem examination in the inedible products department. The findings of the post-mortem examination should be reported to the Animal Disease Eradication Division field office and to the State live-stock sanitary official of the State where the animals were tested.

- 9.4 The identification of tuberculin reactors should be accomplished with care, which includes making a record of the reactor numbers directly from the metal tags.
- 9.5 When tags are missing from animals otherwise identified as reactors, accurate descriptions should be entered on all necessary reporting forms, including the estimated or known weight, presence or absence of brand marks on the jaw or elsewhere, presence or absence of horns, breed, color and markings, and sex. This information will be useful to those responsible for tuberculosis testing.
- 9.6 Officially tagged and branded brucellosis reactors will not be treated or handled as ante-mortem suspects unless they show evidence of any disease or condition which under the Meat Inspection Regulations requires the animal to be treated as a suspect. If ante-mortem findings indicate that a brucellosis reactor should be condemned according to the Meat Inspection Regulations, such action should be taken and the proper information, including the disposition of the animal, forwarded to ADE and State livestock sanitary officials. The identity of brucellosis reactors must be maintained throughout inspection in order to assure proper identification by the post-mortem inspector and to permit proper recording of the slaughter and disposition of such animals.
- 9.7 The Animal Inspection and Quarantine Division plans to phaseout its resident inspectors from licensed veterinary biological establishments producing anti-hog cholera serum at varying times in the future.

Upon request of the Animal Inspection and Quarantine Division, an inspector of the Meat Inspection Division may conduct ante-mortem inspection and supervision of the final bleeding operations at the licensed biological establishment. The inspector will not supervise intermediate bleeding operations nor salvage exhausted animals. The inspector will check the records, ascertain that the ten days have elapsed after hyperimmunization, and otherwise determine that there is full compliance with Sections 9.7 and 10.16 of the Meat Inspection Regulations.

The time incident to servicing these licensed establishments will be charged against the Animal Inspection and Quarantine Division in the usual manner.

Supervision of final bleeding operations in federally inspected establishments will be assumed by the Meat Inspection Division as AIQ inspectors are withdrawn. In this case, no charge will be made since the operations are within our normal area of responsibility.

- 9.8 The provisions for emergency slaughter are not intended to cover the slaughter of sick or dying animals.
- 9.9 Ante-mortem inspection of horses should include closely observing the animals at rest and in motion for action and appearance. Fistulous withers, poll evil, melanotic tumors, respiratory disturbances, and cripples of various kinds are the most frequently observed abnormal conditions. Animals showing conditions that would cause condemnation on post-mortem inspection and those having a rectal temperature of 105°F. or above should be condemned on ante-mortem inspection. A walkway, about 36 inches above the floor and along the inside of the pen lessens the hazard of injury to the inspector and better enables him to observe the neck and withers regions of the horses when performing ante-mortem inspection.
- 9.10 Listeriosis has been reported from all sections of the country in cattle, sheep, swine, and horses. The symptoms on ante-mortem inspection are typical of encephalitis and may consist of weakness, fever, incoordination, circling, and pushing or leaning against objects. The head may be held to one side and the ear on that side drooped; if moved, the head returns to this position. Pharyngeal paralysis is frequently observed. Animals showing symptoms of this disease should not be slaughtered.
- 9.11 Scrapie, a disease of sheep and goats, has been found in this country. During the early stages of the disease, no characteristic symptoms develop; however, later the animals become restless and excitable with tremors and grinding of the teeth. Pruritis is characteristic and the animal rubs against solid objects and scratches with the hind feet. Soon after this, the wool drops from the flank and hind quarters. Gradual incoordination follows and excitement may bring on convulsions and coma. This stage is followed by emaciation and weakness with the animal unable to rise; death soon follows. When animals suspected of having this condition are found, a report should immediately be made to State and Federal officials in charge of animal disease control work who will dispose of the animals affected with scrapie.

(12) The post-mortem examination of cattle that have reacted to the tuberculin test should receive special attention in order to locate all lesions. Use the guide entitled, "Post-Mortem Inspection of Cattle Reacting to the Tuberculin Test", in conducting this phase of post-mortem examination. In addition to the U. S. Retained tag number, the identification of the animal should be indicated by the reactor tag number.

(13) The fact that an animal has reacted to the test for brucellosis does not require special post-mortem technique. It need not be retained nor classed as a suspect unless cause other than the reaction to the brucellosis test requires such action.

(14) Washing of carcasses should be deferred until bruises have been removed and inspection has been accomplished.

(b) Hogs

(1) Inspectors assigned to head inspection are required to inspect hog carcasses to determine whether they have been properly cleaned. The establishment must properly clean hog carcasses before any opening is made for evisceration or dropping the head. Inspectors can assist the management of establishments in assuming this responsibility by pointing out many of the factors that influence satisfactory scalding, dehairing, and cleaning. Some of these factors are water circulation and temperature, number of carcasses, and time carcasses remain in the scalding tub; condition and operation of the dehairing machine, including the water temperature and number of carcasses through the machine. These factors may vary considerably in different installations and with the type of hogs slaughtered; however, when given adequate attention, there should be no difficulty in obtaining satisfactorily cleaned carcasses. The knife or other tool used to partly sever the head should be sterilized after each head is dropped. The carcass should be presented to the head inspector in such a way as to make the cervical lymph nodes readily available for inspection.

(2) Both mandibular lymph nodes must be carefully sliced and the cut surfaces examined. Other lymph nodes should be incised for examination when necessary. Exposed muscle tissue should be observed for evidence of cysticercosis or for other abnormalities that might warrant retention of the carcass.

(3) When necessary to prevent contamination of the carcass or viscera, the rectum must be tied before evisceration. Establishment employees should exercise care to prevent cutting of intestines and

stomach. Carcasses contaminated by stomach or intestinal contents or bile must be thoroughly cleaned before being presented for inspection. Organs must also be cleaned before inspection. Those organs excessively contaminated shall be condemned.

(4) Viscera inspection must include palpation of the mesenteric, portal, bronchial, and mediastinal lymph nodes. The liver, spleen, lungs, and heart must also be palpated and all parts of the viscera carefully observed. When the carcass has been retained for tuberculosis, "pin-point nodes", or cervical abscesses, the splenic, portal, bronchial, mediastinal, and mesenteric lymph nodes, and the spleen must be incised for inspection, except when the character and extent of tuberculous lesions can be determined without incision. When they have been detected by palpation and visual examination, the incision of such nodes as a part of the final inspection is not required unless the final inspector considers it necessary.

(5) The viscera inspector should observe the carcasses and insofar as possible, the methods establishment employees use in handling carcasses and parts.

(6) The rail inspector must observe carefully all parts of the carcass. He should require that remnants of liver and lungs, bruises, wounds and other abnormalities be removed by an establishment employee. Care should be taken to detect parasitic infestations, particularly kidney worms (*Stephanurus dentatus*). The cut surfaces of hams, briskets and diaphragms should be observed for evidence of cysticercosis. Establishment employees are required to remove the remnants of spermatocysts, abscesses and bruises that may be present in ham facings.

(7) An establishment employee should be required to remove all lymph node tissue from the necks of carcasses retained on account of cervical abscesses and if the heads are passed for food, a careful removal of the mandibular and adjacent nodes should also be required.

(8) Inspectors performing the final inspection of hogs retained on account of tuberculosis must examine by incision all important body lymph nodes of such carcasses except as provided below:

(a) Incision of the body lymph nodes may be omitted provided careful inspection of the head and viscera shows no lesion other than those in the lymph nodes of the head and mesenteries.

(b) Incision of the prescapular node may be omitted provided careful inspection shows the prepectoral node and the thoracic pleura to be free of lesions.

(c) Incision of the prefemoral node may be omitted provided an examination of the superficial inguinal, sublumbar and iliac nodes shows them to be free of lesions.

(9) Establishment employees are required to sterilize implements after their use on retained carcasses.

(10) The necks of hog carcasses may be washed after removal of the leaf and scrap fat. The skimmings from the tank receiving the water from neck washing should not be used for edible purposes.

(c) Calves

(1) Calf carcasses should be cleaned and dressed while they are suspended from an overhead rail.

(2) The heads should be thoroughly washed and the cavities flushed in the same manner as cattle heads. Incisions for node inspections may be confined to the suprapharyngeal lymph node unless there is reason to believe that incisions should be made of the other nodes of the heads.

(3) The viscera including the paunch and intestines must be presented for inspection. Unless directed otherwise by the inspector in charge, the viscera inspection should be by palpation of the heart, lungs, liver and attached lymph nodes, kidneys, and iliac nodes, with any necessary incisions and a careful observation of remaining parts of the viscera.

(4) All exposed surfaces of the eviscerated calf carcass must be inspected. The skins of bruised calves and those affected with grubs, lice and other skin conditions as well as those found unclean, must be removed as part of the dressing operations at the time of slaughter.

(5) The adequacy of dressing and cooler facilities to accomplish sanitary handling of the carcass' viscera and parts, rather than the age of the animal as determined by its teeth or weight, should be considered when an establishment proposes to dress so-called large calves. The inspector in charge should determine what inspection steps are necessary on such carcasses to assure that any disease or parasitic conditions are detected.

(d) Sheep

(1) In order to prevent contamination of sheep heads, scalping operations should be delayed until the pelt has been loosened from

the rest of the carcass. Horns should be removed at the time of scalping. Nasal and oral cavities should be flushed before heads are placed on workup tables or in chutes. Over-all washing of sheep carcasses should be accomplished before any openings are made for inspection or evisceration.

(2) Viscera inspection: The abdominal and thoracic viscera should be observed carefully, and the lungs and liver with related lymph nodes and the heart should be examined by palpation. The main bile duct should be opened and examined for parasites. Incision of the bile duct should be made by the eviscerator as part of the dressing operations.

(3) Rail inspection: All parts of the carcass should be observed carefully and an examination made by palpation of the area above the popliteal lymph node, and the prefemoral, superficial inguinal (or supramammary), and prescapular lymph nodes. In palpating these nodes, with the exception of the popliteal, place each node in turn between the thumb and fingers, including as little as possible of the overlying fat and tissue. The inner surfaces of the pelvic, abdominal, and thoracic cavities should be observed.

(4) Inspectors may by practice acquire a high degree of efficiency in detecting lesions of caseous lymphadenitis in most of the principal body lymph nodes by palpation alone, and immediate and careful attention should be given by inspectors in charge and supervisors to developing such efficiency and skill in inspectors assigned to post-mortem inspection of sheep.

Although the exposure and incision of the body nodes is neither necessary nor desirable as a general practice, such procedure should be followed when efficient palpation fails to establish beyond a reasonable doubt that the nodes are free from lesions.

When incision of body nodes is necessary, care should be exercised to leave the nodes in situ and held by natural attachments.

(5) The final inspector will, of course, make a thorough examination of retained carcasses and viscera. When caseous lymphadenitis is found, the final examination should include incision of the prefemoral, superficial inguinal (or supramammary), internal iliac, sublumbar, renal, prepectoral, prescapular and popliteal lymph nodes, and of the kidneys and other nodes if the conditions so indicate.

(6) A common condition found seasonally in sheep is sometimes referred to as "wild oats" or "needle grass." This plant material has been identified as a species of stipa, probably stipa comata. These needlelike awns penetrate the skin and lodge in the subcutaneous tissue. Localized inflammations are set up around the imbedded plant particles. When only

Calf Products

Condition

Rennets----- When abomasi of calves are used to produce rennet, they do not need to be thoroughly cleaned; They may be emptied of their contents in an edible products department provided the operation creates no nuisance. The containers should be marked "calf rennets" and "inedible."

Pharmaceutical products should be prepared, collected, and stored in such manner that there will be no interference in the preparation of edible products or the inspection of such products.

10.11

(a) A clean aqueous solution of common salt not exceeding 20° salometer strength may be used at official establishments for wetting cloths prior to their application to dressed carcasses of any species, under the following conditions:

(1) The cloths must not exceed in weight or thickness that of the heavy grade of muslin commonly used for clothing cattle carcasses. Aside from unavoidable overlapping at certain points, the cloths should be applied in only a single layer.

(2) Rolls of cloth such as may be applied in the furrow of the neck and in the renal and iliac regions of cattle carcasses should not be wet in salt solution.

(3) Salt solution may be applied to carcasses only once and only in the manner hereinbefore specified unless the carcasses are to be salt cured in their entirety in the establishment where slaughtered, in which case measures should be adopted that will maintain the identity of carcasses so treated without material additional supervision. If carcasses enveloped in cloths are placed in bags or other coverings for shipment, such outer coverings should bear prominent and legible marks of inspection.

(b) (1) Acetic acid solution may be used at official establishments for wetting shroud cloths prior to application to dressed sheep carcasses provided the acetic acid solution does not exceed one per cent.

(2) Sodium hypochlorite solution not exceeding 20 parts per million may be used on shroud cloths prior to their application to dressed carcasses of any species under conditions outlined in part (a) of this subchapter.

(3) Carcasses should be branded in the manner prescribed by the Division, and methods should be adopted that will avoid impairment of the legibility of brands by the application of the wet cloths. When

carcasses are forwarded from official establishments without removal of the cloths, additional brands, if necessary, should be applied to the carcasses at locations that will be clearly visible at all times without removal of the cloths.

(4) Carcasses should not be clothed in a manner that increases their weight through absorption of water.

10.12 The use of fountain-type brushes for washing carcasses and parts is not acceptable.

10.13 Cattle.—Physiological effects have been observed on post-mortem inspection in carcasses and organs injected with enzyme solutions. Some of these effects are (1) hyperemia of the subcutaneous fascia, (2) edema and/or hyperemia of the lymph nodes (particularly those which serve peripheral areas), (3) red-strained serous fluid in the pleural cavity, (4) congestion of thoracic and visceral organs, and (5) edema and hemorrhage of lungs and kidneys. Veterinarians observing slight physiological effects in the carcass may pass the carcass for food without further restriction after removal of the affected tissue. A carcass which reveals effects more severe than slight congestion of subcutaneous tissues in the carcass or viscera should be condemned for food.

10.14 In cases where sheep pancreatic glands are to be used for edible purposes, the inspectors should adjust their inspection procedures to assure that no tapeworm infested glands are used. Tapeworms in bile duct indicate possible presence of infested glands. This does not apply to pancreatic glands used for pharmaceutical purposes.

10.15 Heads sold intact (market heads) must be thoroughly cleansed by the injection of live steam through the nasal passages.

10.16 Procedures to be followed when anthrax is encountered in swine on the slaughtering floor:

(a) Preliminary clean-up and disinfection:

(1) Immediate cessation of operations including sticking.

(2) Remove immediately the affected carcass.

(3) Inspect and condemn all dropped heads from the point of detection to the head dropper.

(4) Thoroughly cleanse and disinfect all knives, aprons, boots, and other equipment used by the employees contaminated through contact with anthrax-infected material.

(5) In lieu of draining the scalding vat, the water may be heated to the boiling point.

(6) Cleanse floors, benches and other equipment contaminated by the affected carcasses with water heated to 180 degrees F.

(7) Cleanse and disinfect arms and hands of employees who have contacted infected materials as outlined in Part 10.9 (e) (3) of the Regulations.

(8) Trim all stick wounds from the point of detection to stickers.

(b) General clean-up and disinfection: Procedures as outlined in the Regulations shall be followed upon completion of the slaughtering of the lot of hogs of which the anthrax-infected animals were a part.

PART 11—DISPOSAL OF DISEASED CARCASSES AND
PARTS

- 11.1 Uncomplicated arthritis as seen on post-mortem is commonly a residual lesion of a previous systemic disease such as erysipelas, brucellosis, etc., from which the animal has recovered. When the lesions of arthritis are so distributed in the carcass that removal is impractical, the carcass shall be condemned. All affected joints and regional lymph nodes should be removed on the dressing floor. Calf carcasses affected with arthritis shall be completely skinned prior to removal of affected tissue.
- 11.2 A general guide in respect to the terms "slight," "well marked," and "extensive" as they apply to tuberculosis nodes is as follows:
- Slight.—The lymph node is not enlarged and there is more healthy than diseased tissue.
- Well marked.—There is more diseased than healthy tissue with or without some lymph node enlargement.
- Extensive.—Lymph nodes are greatly enlarged or nearly all the tissue is involved.
- 11.3 The form used for reporting the final post-mortem disposition of retained carcasses and parts includes an unlisted tags section for all species. Suspects and condemned carcasses should be reported on the upper part of the form; a brief, concise description of the conditions found on post-mortem examination should be given. Other disease, parasitic and abnormal conditions may be tallied in the lower part of the form.

Unlisted tags

Tuberculosis—cervical lymph nodes only-----
Tuberculosis—mesenteric lymph nodes only-----
Tuberculosis—cervical and mesenteric lymph nodes only-----
Cervical abscess—heads passed (includes pin points)-----
Cervical abscess—heads condemned-----

- 11.4 Heads tagged for slight abscesses shall be condemned when the mesenteric glands are found to be tuberculous. The condemned head will be reported as being condemned for tuberculosis.

cattle were purchased. The slaughter of reactors should not be delayed because of lack of identification or shipping permits. After such cattle are slaughtered, all details concerning lack of identification should be forwarded in the report as outlined.

11.9 Testicles from bulls that have reacted to the brucellosis test must not be passed for food purposes.

11.10 Animals known to have recovered from listerellosis may be slaughtered as suspects. If found free from disease conditions which would require other disposition, the carcass and viscera may be passed for food but the head should be condemned.

11.11 Hogs affected with atrophic rhinitis may be identified by a characteristic disfiguration of the nose and complete or almost complete absence of the nasal turbinate bones. Small amounts of pus or catarrhal exudate may be found in the nasal sinuses. The soft tissues of the turbinates may be present but folded against the nasal cavity wall, since the supporting bony structures have disappeared. Abscesses or caseous necrotic lung lesions that are well circumscribed have been found in old cases and are probably due to inhalation of tissue particles or exudate from the nose during the active stage of the disease. This condition is usually localized and the tissues of the head that are used for food can be removed without contamination.

11.12 There is convincing evidence that the so-called lymphatic leukemias, pseudoleukemias, and lymphosarcomas are related variants of one disease, which is a malignant neoplasm of lymphatic tissue. The term "malignant lymphoma" has been widely used in the veterinary profession to describe this disease. Accordingly, when veterinarians encounter this condition in the conduct of their post-mortem work, it should be reported as "malignant lymphoma."

11.13 Exogenous pigments such as the lipochrome or carotenoid are formed outside of the body. These are the fat soluble pigments of green plants which give the normal yellow color to animal fat. They also cause hepatic carotenosis, an unusually yellow liver which should be condemned under Section 11.32 of the Regulations.

Occasionally all or several bones of young animals slaughtered in apparent normal health show a reddish brown or chocolate brown color. The pigment here is a porphyrin. Animals showing this condition should be boned.

The misuse of injectable iron preparations in the muscles of the hindquarters of swine is evidenced by brown and yellow deposits in areas about two inches in diameter. These areas often extend the length of the semitendinosus muscle on the posterior aspect of the

femur. This condition is the result of intramuscular injections in adult swine of iron preparation. Since this injection is known to injure the muscle sarcoplasm, those portions affected should be removed and condemned. The remaining muscle tissue may be passed for food. The detection of this condition is made most often during ham slicing operations.

Endogenous pigments are formed inside the body. Those formed within individual cells are known as autogenous pigments; those formed by the liver are called hepatogenous, and in the blood hematogenous.

The most important autogenous pigment is melanin. Melanin is the pigment which gives color to the skin and hair. Deposits of melanin are normally found in the surface tissue of the tongue, brain, lips and palate of certain animals.

A condition known as melanosis occurs occasionally which is a deposition of melanin in various organs, especially the lungs and aorta, as black spots of irregular shape. This is not sufficient cause to condemn the animal as there is no change in the texture, consistency or form of the tissue. The affected parts can be radically removed and the carcass passed for food.

If deposits of melanin located in the muscles, connective tissue, peritoneum, and fat are not associated with characteristic malignant tumor formation, the carcass may be passed for food after removal and condemnation of the affected portions.

If the character and location of the melanin deposits are such that complete extirpation is difficult and uncertainly accomplished or if the deposits render the organ or parts unfit for food the affected organs or parts must be condemned. When melanin deposits are distributed in the carcass or part in such manner that removal is impractical, the carcass or part must be condemned.

The slight melanin deposits occasionally found in the spinal meninges are not considered significant unless they are also present in the sheaths of the spinal nerves and extend into the meat. If such is the case, it may be necessary to bone the affected part or parts to remove deposits of melanin.

in the bile ducts, cirrhosis of the liver, gallstones or anything which reduces or stops the normal flow of bile causing it to be reabsorbed into the blood.

Carcasses of animals affected with icterus are to be disposed of according to Section 11.20 of the Regulations. Icterus should not be confused with yellow fat conditions characteristic of certain breeds of livestock.

11.21 Carcasses of swine that give off a pronounced sexual odor shall be condemned. The meat of swine carcasses that give off a sexual odor less than pronounced may be passed for use in comminuted cooked meat food products or for rendering. Boneless pork meat from such carcasses may be shipped in containers labeled such as "Boar meat passed for use in comminuted cooked product only." These properly labeled containers bearing marks of inspection may be shipped without restriction. Carcasses or bone-in cuts from such carcasses may be shipped from the establishment under restriction (25.9 of the Regulations and Manual) to other federally inspected establishments either for boning, packaging, and labeling as previously described in this paragraph or for processing in the federally inspected establishment in a comminuted cooked product.

11.22 (a) A practical test for carotenosis may be made by placing a white paper towel or napkin on a cut surface of the liver. An orange-bronze stain is indicative of the condition.

(b) "Slight" may be construed to mean that the lesions are to be not only small in size but also few in number.

(c) If the conditions are so localized that minimum amount of trimming will change the appearance from "moderate" to "slight", the organ may be trimmed and passed without restriction.

11.23 Carcasses of animals which are designated as "recovered" cases of anaplasmosis may be passed for food if the yellow coloration of the carcass disappears on chilling and if no other lesions of the disease are present.

11.24 Attention is called to possible lesions resulting from antibiotic injections found on post-mortem inspection of cattle carcasses. The antibiotic may have been administered to alleviate or disguise acute symptoms of disease or as a preventive measure but in any event, the animal is often marketed prior to complete absorption of the oil base antibiotic. Several instances have been reported where the lesions were observed in the round or heavy muscular parts of the carcass. The lesions are described as an oily viscous material, opaque yellow in appearance. Assay of

tissues in our Meat Inspection Laboratory has demonstrated therapeutic levels of antibiotics in the meat and edible organs in these cases.

In case lesions are discovered on post-mortem examination, tissue samples should be submitted for analysis. Samples should include muscle and fat taken at the site of the injection (including the injected substance when present), liver tissue, kidney tissue and muscle derived from an unaffected part of the carcass. Each tissue sample should be identified and placed separately in plastic bags. Approximately one-half pound of each tissue will be adequate for assay analysis. Do not add borax or formalin to tissue samples in which antibiotic findings are requested. The sample should be frozen, wrapped and packed with dry ice (also wrapped in paper and sealed to prevent direct air contact), mailed by regular airmail with a distinctive airmail legend and addressed to the Meat Inspection Biological Sciences Laboratory, Building 318, Beltsville, Maryland. Normally, samples prepared in this manner, mailed during the week, will arrive in satisfactory condition.

It has been found that trimming of affected areas may or may not assure that the carcass and organs are free of antibiotic residues. Each carcass showing lesions of injections suspected of being caused by antibiotics should be retained and disposed of in accordance with laboratory findings. If the establishment desires confirmation by collect wire, indicate this information on the sample form.

To assist in reducing error in the assay and aiding in trace-back on antibiotic injections, we would like to have all available information known regarding the case accompany the laboratory sample, i.e., ante-mortem symptoms, origin of animal, number in lot, number of animals affected, antibiotic suspected, dose, manufacturer's product name, etc.

11.25 The identification of cattle hides in assisting the trace-back of carcasses demonstrating lesions of tuberculosis on regular kill has been accomplished by use of a three-section identification tag developed by the Animal Disease Eradication Division.

The procedure consists of placing a three-section tag with pins on the right ear. One tag is then removed and pinned to the head and the second tag is torn from the attached tag and placed on the carcass. The procedure is outlined and illustrated in Animal Disease Eradication Memorandum No. 501.56. We believe the procedure can be more sanitary and can be accomplished without adding to the work load of the establishment employees. Alternative procedures have been worked out in which the tag is attached to the hide by glue or by other means.

It is the intention of the Animal Disease Eradication Division to have their representative visit meat inspection stations and individual establishments in an effort to develop the use of this three-section tag on a national basis. Please give the Animal Disease Eradication Division representative whatever help you can in meeting proper establishment officials and explaining the need and use of the three-section tag.

We have a professional interest in animal disease eradication, and plant management has a similar interest based on operational savings and reduced condemnations that follow lowered disease incidence.

11.26

The carcasses of animals affected with the following conditions may be used for carnivorous animal foods provided they are freely slashed and decharacterized: Anasarca, nonsystemic arthritis (after removal of affected joints), emaciation, eosinophilic myositis, immaturity, non-septic bruises and injuries (after removal of abnormal tissues), sarcosporidiosis, and unborn calves. This permission should be granted with the understanding that all parts used will be promptly handled, freely slashed, and adequately decharacterized by charcoal or dye as required by the inspector in charge. The slashing, decharacterizing and packing of the product should be accomplished in an inedible area under the supervision of an inspector. Facilities must be adequate so that the carcasses or parts to be used for animal foods are not contaminated with pus, manure, septic or toxic materials and the like. The operation must not result in a nuisance within the establishment.

11.27 Biological residues in meat and meat food products -
instructions and standards of compliance.

The Meat Inspection Regulations (Sections 1.1(cc), 9.19, 11.42, and 18.18) formalize general policies and provide for standards and procedures which are intended to assure that meat and meat food products from animals slaughtered and/or processed under Federal meat inspection are free of harmful residues or within safe tolerances, and are wholesome and fit for human food. Instructions and standards of compliance to make this determination have been made a part of this memorandum to provide the inspector information to properly carry out his responsibilities. Additions and changes to keep this information current will be provided by the Procedures and Requirements office of the Meat Inspection Division.

Chemicals have been included that may be incorporated in meat through biological processes from the animals' environment, food or treatment. Such residues are referred to as "Biological residues." Chemicals and drugs covered in this memorandum are divided into pesticides (Chlorinated hydrocarbon compounds and cholinesterase inhibitor compounds), metallic elements, and veterinary drugs. A sustained monitoring program will be required at each Meat Inspection station to properly determine that the meat from all species of animals slaughtered and/or processed under our supervision is in compliance with the Meat Inspection Regulations. The collection of samples for laboratory analysis must be on a selected basis. Each inspector in charge will need to evaluate this information as well as procure information available to him in his area and then take necessary action. Such information at your location may be derived from contact with the following sources: (1) Farmer organizations, (2) County agents, (3) Colleges and Universities, (4) State Experiment stations, (5) Retail feed and farm supply stores, (6) Practicing veterinarians, (7) Local news media including articles and promotional information directed to the application and use of chemicals by the farmer or livestock producer, and (8) Federal and State organizations.

Pesticides

A. Chlorinated hydrocarbon compounds - The chlorinated hydrocarbon pesticides accumulate and persist in the fat, two characteristics that make this group of concern from a residue standpoint. Analytical methods are available to identify the chlorinated hydrocarbon group of pesticides without the need for the inspector to identify on the request form the specific chlorinated hydrocarbon pesticide for which an analysis is desired. The more important members of the chlorinated hydrocarbon pesticides include: DDT and its analogue DDD (TDE) and metabolite DDE, Aldrin and its epoxide converted in the animal to Dieldrin, BHC and its gamma isomer lindane, Chlordane, Heptachlor metabolized in the animal to Heptachlor epoxide, Methoxychlor and Toxaphene.

B. Cholinesterase inhibitor compounds - The organophosphorus pesticides all contain the phosphorus radical in a combination which permits the pesticide to inhibit competitively acetylcholinesterase and other cholinesterases. The biological action results from the persistence of an excess of acetylcholine at those nerve endings where it normally functions evanescently as a transmitter. Accumulation of acetylcholine leads first to stimulation and later to paralysis of all nerve synapses and motor endings, except the termination of the sympathetic fibers. When a residue determination for pesticides in the cholinesterase group is requested, the inspector must identify the specific member suspected. At the present time, methods are not available to cover the entire group as in the case of the chlorinated hydrocarbons. U.S.D.A. have registered several pesticides (chlorinated hydrocarbon and cholinesterase inhibitor compounds) for use on meat animals which require dosage and slaughter limitations. Table II provides the inspector the registered use, method of administration, dosage, slaughter limitations and species restrictions. There are other pesticides registered for animal use but do not require slaughter limitations if applied as registered.

Veterinary meat inspectors should be familiar with the acute and chronic symptoms of both the chlorinated hydrocarbon and organophosphorus pesticides to properly render ante-mortem inspection. "Downer" animals should receive special attention with regard to the possibility of pesticide toxicity symptoms on ante-mortem inspection and pathological lesions on post-mortem inspection.

Ante-mortem symptoms-chlorinated hydrocarbon pesticide poisoning -

The more toxic chlorinated hydrocarbon insecticides act as diffuse stimulants or depressants of the central nervous system. This group includes BHC, Chlordane, Toxaphene, Dieldrin, Aldrin, Strobane, and Heptachlor. It probably will be unlikely that individual animals in a lot of animals from a common source will exhibit all the possible symptoms but, usually, symptoms between animals will identify a definite syndrome and provide the inspector means of recognizing chlorinated hydrocarbon poisoning. The onset of symptoms will vary depending on exposure dose and chemical involved. The severity of the symptoms may range from mild to very extreme—the less toxic chlorinated hydrocarbon compounds which include DDT and methoxychlor first show restlessness, excitability and hypertension, much like animals poisoned with the more toxic members of the group. Symptoms of fasciculation of the facial muscles appear, followed by clonic spasms of the cervical muscles, then extending to the musculature of the forequarters and hind-quarters. Following seizures, the animal appears depressed and stiff. In milder cases of poisoning, muscle tremors are inconspicuous, the animal walks with pasterns extended stiffly, and with short, choppy steps. Often symptoms of laminitis follow and the animal may show soreness in all four feet. Reflexes are usually slow, and the animal exhibits rapid weight loss. In severe poisonings, the animal may show convulsive seizures, become comatose and remain so for several hours before death. In acute poisonings a rise in body temperature is observed.

Drugs

Animals presented for slaughter having a history or showing symptoms indicative of recent treatment should receive special attention for possible residues. With the large number of medicated feeds and drugs for oral and parenteral use, the ante-mortem inspector must be alert to the possibility of drugs masking the symptoms of a sick animal. Examples of this are the use of tranquilizers in certain nervous system diseases and the use of antibiotics in the disease conditions associated with pyrexia. Swellings in the gluteal or other heavy muscle regions, discolorations in the regions of the body orifices, and other abnormalities associated with the administration of drugs are important aspects of ante-mortem inspection. Lesions in the muscles and subcutis, discoloration of the tissues, and characteristic odors are possible post-mortem findings associated with drug residues.

All drugs administered to animals must be adequately labeled with full directions for use and cautions against misuse. Some require a withdrawal time to insure the elimination of residues from edible tissues; this must also appear on the label of such products. The Food and Drug Administration has established proper use and amounts permitted as well as withdrawal times when scientific data dictate such a need. The following information is provided for the inspector's use; we have not included maximum use levels for specific drugs since they are provided on the label and are spelled out in Food and Drug provisions. However, we recognize that if accepted levels are exceeded regardless of adherence to withdrawal times, residues and physiological effects or pathological lesions may result in the animal and its edible tissues. In the event such circumstances are encountered and the inspector needs information concerning specific uses and dose levels, this will be provided on request to the Procedures and Requirements office.

A. Medicated Feeds.

Organic arsenicals - (Sodium arsanilate, arsanilic acid and 3-nitro-4-hydroxyphenyl arsonic acid). Swine - Discontinue use at least 5 days before slaughter for food to permit elimination of residue from meat of carcass and/or organs.

Diethylstilbestrol - Beef cattle and Sheep only. (Not to be fed to dairy cattle). Warning - Withdraw 48 hours before slaughter for food. Maximum daily intake 10 milligrams beef animals, 2 milligrams sheep. Diethylstilbestrol-implants in hogs are not permitted. Diethylstilbestrol combined with Chlortetracycline, Oxytetracycline or Bacitracin beef cattle.

Warning - Withdraw 48 hours prior to slaughter.

Hygromycin B with or without combination with other drugs. Swine-
Warning - Discontinue 48 hours before slaughter for food. Chlortetracycline - Swine 400 gram level 14 day treatment for Leptospirosis. Warning - Discontinue use 10 days before treated animals are slaughtered for food.

Chlortetracycline - Swine less 400 gram level. No withdrawal period required. Chlortetracycline combined with Sulfamethazine and Penicillin-
Swine-Warning - Discontinue 5 days prior to slaughter.

Chlortetracycline Cattle - 350 mg. per head per day or over. Warning - 48 hour withdrawal prior to slaughter. Feed containing levels less than 350 mg. per head per day no withdrawal period required.

Tylosin combined with Hygromycin B Swine - Warning - Discontinue 48 hours prior to slaughter. Tylosin combined with streptomycin - No withdrawal period required before slaughter of treated animal.

Cadmium Oxide - Cadmium anthranilate - Warning - Treated hogs must not be slaughtered for food for at least 30 days following treatment to permit elimination of cadmium residues in carcass and organs.

Thiabendazole - Cattle - Warning - Do not slaughter for food 30 days following treatment.

B. Oral or Parenteral

Chlortetracycline - Calves Oral - Warning - Not to be administered 24 hours prior to slaughter.

Chlortetracycline combined with Neomycin - Oral - requires the same slaughter restrictions of 24 hours withdrawal prior to slaughter for food.

Chlortetracycline - Combined with Sulfamethazine Calves - Oral - Warning - Do not administer within 5 days of slaughter for food. Sodium Sulfabromo Methazine (Sulfabrom[®]) - Cattle and calves - Warning - Not to be administered 10 days prior to slaughter for food.

Penicillin combined with Streptomycin, or tetracyclines - cattle-
Parenteral-Warning - Not to be administered 5 days prior to slaughter for food.

Thiabendazole - cattle, sheep, goats, swine - Oral-Warning - Not to be administered 30 days prior to slaughter for food.

Tylosin - For injection - Swine - Warning - Do not administer 4 days prior to slaughter. For drinking water - Swine - Warning - Do not administer 48 hours prior to slaughter.

Progesterone and/or Testosterone propionate combined with Estradiol benzoate. Lambs, steers and heifers - Warning - Subcutaneous implant not to be used 60 days before slaughter.

Establishment's Responsibility in Presenting Animals for Slaughter.

Inspectors in charge should apprise federally inspected establishments of their responsibility to present for ante-mortem inspection only those animals that are potentially eligible for use for human food purposes. Chemicals used as feed additives, hormones, pesticides, tranquilizers, anthelmintics, antibiotics, etc., serve a useful purpose when properly used. It is possible, however, that apparently healthy animals might be completely unsuitable for food purposes because of possible masking of symptoms of disease and/or chemical, drug or biological residues in the edible tissues and organs.

The establishment has the responsibility to make every reasonable effort to determine the background handling of the animals that constitute the raw material for inspected meat products. Any information that might be important in the ultimate disposition of the meat must be available to the inspector. Feeding practices, experimental testing, use of tranquilizers, therapeutic and prophylactic treatments - all may be important in determining whether the meat from any particular animal would be passed for food.

This information is particularly important to the meat packer as surveys conducted by the Meat Inspection Division indicate occasional problems of biological residues exist in slaughtered animals. It becomes increasingly important when corrective measures are required in this field that the packer be in a position to identify his suppliers so that corrective measures can be taken before animals are presented for slaughter.

Examples of recent difficulties in this area tend to illustrate the critical position of the establishment in the following situations:

- (1) Injection of iron compounds in hogs resulting in discoloration of tissues and losses in pork products.
- (2) Unmanageable animals felled with muscle relaxants not cleared for use on food-producing animals resulting in condemnation of the carcass when not identified to the inspector nor withheld from slaughter.
- (3) Levels of diethylstilbestrol, antibiotics, arsenicals, pesticides, etc., remaining in the tissues and exceeding safe levels as a result of improper use or inadequate withdrawal.
- (4) Animals presented for slaughter after having been treated with unauthorized experimental drugs.

All of these situations result in the packer suffering losses as the holder of carcasses or product that cannot be passed for food purposes. Owners and operators of official establishments have the responsibility to make every effort to maintain identity of livestock and develop necessary background information.

An official establishment which elects to establish compliance with withdrawal times by certification for drugs and pesticides in which a withdrawal period is required may do so, however, the inspector in addition to giving full consideration to a valid packer-seller certification should place emphasis on submitting selected samples from animals presented for slaughter.

Submission of Tissue Samples

To improve the effectiveness of our present residue monitoring program, it is imperative that all available animal identification information and history be included on the accompanying forms. When gross pathology accompanies a suspected residue problem, these specimens should be sent to the Biological Sciences Laboratory, Building 318, Beltsville, Maryland, and reference made if the samples for residue analysis are sent to the Chemical Laboratory assigned to service your station. Care should be taken to assure that samples arrive in the laboratory in a refrigerated condition.

(A) Samples for pesticide analysis - Pesticide samples from all species of selected food animals slaughtered should be mailed to the Chemical Control laboratory assigned to service your station with the exception of Omaha and Washington, D. C. If Omaha is your servicing laboratory, samples should be sent to Chicago. If Washington, D. C. is your servicing laboratory, samples should be sent to New York. Form MI-422 "Sample for Laboratory Inspection", may be used and any ante-mortem or post-mortem observations and all available animal identification information should be included. Tissue residue samples should consist of one pound of fat for chlorinated hydrocarbon analysis and one-half pound of liver tissue and one pound of fat for cholinesterase inhibitor pesticide analysis. In all cases in which an organophosphorus pesticide is suspected, the pesticide should be identified.

(B) Samples for metallic element analysis - Tissue samples from animals suspected of containing metallic residues should consist of approximately one pound each of fat, muscle, liver and kidney. Samples for arsenic analyses should be mailed to the Chemical Control

laboratory assigned to service your station with the exception of Omaha (send to Chicago). Samples for lead, mercury and selenium analysis and representative specimens of gross pathology of all toxicities should be mailed to the Biological Sciences Laboratory, Building 318, Beltsville, Maryland. Form MI-422 should accompany the samples for analysis and MI-403-8, "Pathological Laboratory Request Report", should accompany the specimens for pathological determinations. Include all available animal identification information, history, symptoms and gross lesions.

(C) Samples for drug assay - If animals slaughtered are suspected of carrying drug biological residues, samples should consist of approximately one-half pound each of muscle, liver, kidney tissue. All samples should be sent to the Biological Sciences Laboratory, Building 318, Beltsville, Maryland, with the following exceptions. Samples for diethylstilbestrol and organic arsenical determinations should be mailed to the Chemical Control laboratory assigned to service your station, with the exception of the Omaha laboratory. The Omaha laboratory is not equipped to handle diethylstilbestrol and arsenical analyses, therefore, these samples should be sent to the Chicago laboratory. MI Form 403-8 should be used and the samples should be prepared so as to arrive in the laboratory in good condition. Do not use preservatives. Include all available animal identification information and history on the sample form.

(D) Samples of import products for residue determination - Station residue monitoring programs should be extended to include selected samples of import meat. Form MI-422-2, "Import Sample for Laboratory Inspection", should be used. Identify product and country of origin. Submit import residue samples to the Chemical Control laboratory servicing your station.

Dispositions

Pesticide residue tolerance levels in meat and meat food products are presented in Table I. Residue tolerances in carcass meat or its organs or in meat food products have not been established for drug residues. Animals showing injection lesions should be handled in accordance with MID-64-10. Disposition of animals showing injectionable iron lesions should be handled in accordance with MID-63-31.

Pesticide residue findings showing a combination of individual residues in the same tissue sample shall not be permitted to exceed individual pesticide tolerances nor shall the total residue of all individual pesticides in the sample exceed the highest individual tolerance.

Carcasses and parts retained and found to contain biological residues exceeding tolerances should be retained pending decision from the Procedures and Requirements office in Washington.

Post-mortem findings - In animals showing acute poisoning, the lesions found are nonspecific. Usually petechial hemorrhages occur in the heart and areas adjacent to large blood vessels. Generally, the lungs are congested and show some hemorrhages. In poisoning resulting from oral administration, gastroenteritis has been observed. In chronic cases similar lesions occur, together with degenerative lesions of the liver and kidneys.

Ante-mortem symptoms-organophosphorus pesticide poisoning - Generally, animals first show excessive salivation. Respiratory difficulties may be observed. Restlessness and stiffness occur. Death may be due to blocking the airways by accumulation of mucous in the constricted bronchi, acute pulmonary edema or respiratory failure. Workers report convulsions are seen only with very high doses. Variable symptoms result from individual animal susceptibility, chemical used, and degree of exposure. Susceptibility in individual animals also is due to their cholinesterase reserve before exposure to the organophosphorus pesticide.

Post-mortem findings - In acute poisoning resulting from cholinesterase-inhibiting pesticides, the lesions are never pathognomonic or particularly outstanding. Hemorrhages in heart, lungs or gastro-intestinal tract have been observed in some poisoned animals. Congestion of lungs with signs of pneumonia may be observed.

C. Fungicides - Widely used in the treatment of seed grains. Treated grains have been diverted without approval for feeding food animals. The practice at this time is not considered safe, and residue tolerances in the meat and edible organs from animals fed treated grains have not been established. The common fungicides used are: Captan, Thiram, Ceresan M[®] and Zineb.

Metallic Elements

Inorganic lead, arsenic, mercury and selenium - Any animal presented for slaughter having a history or showing symptoms of inorganic metallic intoxication should not be passed for food without samples being submitted to the laboratory for residue and pathological confirmation. The principal lesions of arsenic poisoning are gastro-enteritis in the acute form and toxic hepatitis in the chronic form. Lead or mercury poisoning are often associated with symptoms involved with the central nervous system disorders. Intoxications associated with selenium involve varied symptoms and lesions, but the two syndromes requiring special attention are "blind staggers" and "alkali disease."

Table I. A list of pesticide chemicals, established tolerance levels in meat and whether accepted for use on slaughter animals and on agricultural premises. A. Chlorinated hydrocarbons. B. Cholinesterase inhibitors. C. Others.

Substance	Animals	Premises	Tolerance
<u>A. Chlorinated hydrocarbons.</u>			
Aldrin	No	No	None
Benzene Hexachloride (BHC)	Yes	Yes	None
Chlordane	No	Yes	None
DDT (including metabolites)	Yes	Yes	7 ppm in fat
Dieldrin	Sheep only	Yes	None
Endrin	No	No	None
Heptachlor (epoxide)	No	No	None
Lindane	Yes	Yes	7 ppm in fat; 4 ppm in fat of meat from hogs
Methoxychlor	Yes	Yes	3 ppm in fat
Toxaphene	Yes	Yes	7 ppm in fat
<u>B. Cholinesterase inhibitors</u>			
Carbaryl (Sevin [®])	No	No	None
Carbophenothion (Trithion [®])	No	No	0.1 ppm in fat

Substance	Animals	Premises	Tolerance
Ciodrin	Yes	Yes	None
Coumaphos (Co-Ral [®])	Yes	Yes	1 ppm for meat and meat food products
Demetron	No	No	None
Diazinon	Sheep only	Yes	0.75 ppm in fat (sheep only)
Dichlorvos (DDVP)	Yes	Yes	None
Dioxathion (Delnav [®])	Yes	No	1 ppm in fat
Di-Syston [®]	No	No	None
Endosulfan	No	No	None
EPN	No	No	None
Ethion	No	No	None
Guthion	No	No	None
Malathion	Yes	Yes	4 ppm in meat and meat food products
Methyl Parathion	No	No	None
Mevinphos (Phosdrin [®])	No	No	None
Naled (Dibron [®])	No	Yes	None
Parathion	No	Strings only	None
Phorate (Thimet [®])	No	No	None
Ronnel	Yes	Yes	None
TEPP (Tetraethyl pyrophosphate)	No	Yes	None
Trichlorfon (Dipterex [®])	No	Yes	None

Substances	Animals	Premises	Tolerance
C. Others			
Diphenylamine	Yes (in screwworm repellents)	No	None
Linuron (Lorox ^(R))	No	No	1 p.p.m. meat, fat and meat food products
Phenothiazine	Yes	Yes	None

(R) Designates trade brand products.

Table II. A list of USDA Registered Pesticide Chemicals, Uses, Dosage and Slaughter limitations.

<hr/>			
Ruelene	Cattle - Not to be applied to meat animals within 28 days of slaughter.		
<hr/>			
	<u>Beef Cattle</u>	<u>Sheep Goats</u>	<u>Swine</u>
Toxaphene	0.6% Dip or spray. 5.0% Dust, 8.0% in oil Backrubbers. Not to be applied within 28 days of slaughter.	0.6% Dip or spray, 5.0% Dust. Not to be applied within 28 days of slaughter.	0.6% Dip or spray, 5.0% Dust, 8.0% in oil applied by rubbing device. Not to be applied within 28 days of slaughter.
<hr/>			
Ronnel (Trolene, Korlan)	0.275 mineral feed mixture per 100 lbs. body weight for 14 consecutive days. 0.6% feed mixture per 100 lbs. body weight for 7 consecutive days. Not to be fed to meat animals within 60 days of slaughter. 15.0 mgs/300 lbs. of body weight orally. Not to be applied within 50 days of slaughter. 5.5% in mineral supplement, block, or granular. Not to be fed to cattle within 60 days of slaughter. 1.5% in oil backrubber. Not to be applied within 6 weeks of slaughter. 0.75% in water dip or spray. Not to be applied within 8 weeks of slaughter. 5.0% screwworm treatment. Not to be applied within 21 days of slaughter. 5.0% Dust. Not to be applied within 21 days of slaughter.	0.5% in water Dip or spray. Not to be applied within 12 weeks of slaughter. 5.0% screwworm treatment. Not to be applied within 21 days of slaughter.	0.5% in water Dip or spray. Not to be applied 6 weeks of slaughter. 5.0% screwworm treatment. Not to be applied within 21 days of slaughter.

Table II (Continued)

	<u>Beef Cattle</u>	<u>Sheep Goats</u>	<u>Swine</u>
Lindane	0.03%-0.06% Dip or spray. Do not dip animals within 60 days of slaughter. Do not spray within 30 days of slaughter. 0.012 in water Dip or spray. Not to be applied to meat animals within 30 days of slaughter. 1.0% Dust. Not to be applied within 30 days of slaughter.	0.06% in water. Do not spray within 30 days of slaughter. Do not dip within 60 days of slaughter. 1.0% Dust. Do not apply within 30 days of slaughter.	0.03-0.06% in water. Do not spray within 30 days of slaughter. 1.0% Dust. Do not treat within 30 days of slaughter. 0.2% in oil hog oiler or back rubber. Do not expose animals within 30 days of slaughter.
Diazinon		0.03%, 0.06% in water, 2.0% Dust. Not to be applied within 14 days of slaughter.	
Coumophos (Co-Ral)	No slaughter limitations.	0.25% in water. Not to be applied within 15 days of slaughter.	No slaughter limitations.

PART 13—TANK ROOMS AND TANKS

- 13.1 Sufficient tanks or melters and equipment of ample capacity must be provided for the efficient handling of inedible and condemned material. Mechanical means should be provided to transfer condemned products into properly marked watertight metal containers. The door between the viscera-separating or slaughtering department and the tank-charging room of the inedible products rendering department should be a solid, self-closing door, or double-action door completely filling the opening. Inedible and condemned material should not be allowed to accumulate from one day to another except in unusual cases. Pipes, chutes, and similar equipment used to convey material from edible products departments to inedible products departments must be effectively hooded and vented when necessary to prevent objectionable odors in edible departments. Inspectors must be intimately acquainted with the purposes of all pipelines and chutes. Metal containers intended for use in handling inedible or condemned products must be watertight and properly identified.
- 13.2 Tanks must be properly equipped with condensers or other appliances to suppress odors. Inspector should know that the equipment is being used properly.
- 13.3 Unborn calves should be skinned in an enclosed area in other than an edible products room and in a manner requiring no undue supervision. The collection or handling of unborn calves will be under immediate supervision or positive control.
- 13.4 Identifying marks or numbers on carcasses of animals tanked in accordance with Section 13.3 of the Regulations should be recorded on Form MI-406-2.
- 13.5 Some factors that are considered in granting permission to bring dead animals on the premises of an official establishment are:
- (a) Adequate and suitable rendering facilities.
 - (b) Acceptable means of conveying the dead animals to the tank-charging level.
 - (c) Ability of the establishment to promptly handle and tank the dead animals in addition to inedible and condemned material usually present at the establishment.
 - (d) Whether the receiving and handling of dead animals is likely to create a nuisance.

PART 14 — TANKING AND DENATURING CONDEMNED
CARCASSES AND PARTS

14.1 Identifying numbers or marks on condemned carcasses and products, the numbers of seals placed on the tanks, and the time of sealing and breaking the seals, together with the identity of the inspector, should be recorded on the daily tanking form.

14.2 It is not practical to require that contents of tanks be cooked a certain length of time to render them unfit for food purposes, because of the varied types of equipment, kind and quantity of contents, heating processes, and the like. The use of crushers or hashers for pretanking preparation of condemned carcasses, parts, and viscera has been found to give inedible character and appearance to the material. Washing equipment for viscera may be used. The inspection supervision of condemned carcasses and product should be maintained only until this material is crushed or hashed. Conveying systems, rendering tanks, and other equipment used in the further handling of the crushed or hashed material need not be sealed or locked. In cases where rendering tanks contain condemned material treated as outlined above, as well as condemned material not so treated, the tanks must be sealed until all of the contents are destroyed for food purposes.

If the condemned material is not rendered in the establishment where produced, crude carbolic acid or cresylic disinfectants should be added at the time of crushing or hashing. The denaturant added to condemned material by establishment employees under supervision of meat inspectors should be limited to the smallest amount necessary to adequately destroy the product for human food purposes. This may be accomplished by applying the denaturant in the form of a fine spray.

14.3 F.D.&C. No. 3 green dye with citronella and detergent may be used as a denaturing agent for inedible and condemned product. The preparation is composed of 1 part F.D.&C. No. 3 green dye, 40 parts by weight of water, 40 parts liquid detergent, and 40 parts citronella. This basic concentrated dye is further diluted by adding 1 part concentrate to 32 parts water when used. The amount of denaturant necessary will depend on the character of the inedible or condemned material.

14.4 The denaturing oil or No. 2 fuel oil should have distinct denaturing properties, both in odor and taste.

14.5 Kerosene, denaturing oil, or No. 2 fuel oil should not be used to denature condemned carcasses or product when tanking facilities are not available. Crude carbolic acid and also cresylic disinfectants may be used for denaturing condemned carcasses or product.

14.6 Rendered inedible fat is not considered to resemble edible product if the inedible characteristics of either color, odor, or taste, singly or in combination, are readily apparent. In official establishments, full responsibility is placed on the inspector in charge and his assistants to see that all fat derived from inedible or condemned material that has the physical characteristics of color, odor, and taste of an edible product is denatured sufficiently to distinguish it from edible product.

- 14.7 Collecting, cooking, dyeing, and washing condemned livers that are to be used for fish food should be accomplished in equipment set aside for this purpose. These operations must not create a nuisance nor interfere with inspection. These livers should be kept under close supervision until denatured. Temperature control and records should be maintained to assure freezing of livers condemned on account of fluke infestation and intended for use as fish food.
- 14.8 The bile from condemned livers may be collected in official establishments when handled as follows:
- Collection should be in the inedible products department or in the slaughtering department, provided adequate facilities are available and collection does not interfere with sanitary handling of products or the conduct of inspection.
- Sodium hydroxide should be added to give the mixture a sodium hydroxide content of not less than 5 per cent. The mixture should be allowed to stand 24 hours before shipment. The material should be labeled "Sodium Hydroxide Not Less Than 5 per cent by Weight. For Manufacturing Use Only."
- The words "ox bile," "sheep bile," or "goat bile," as the case may be, should appear on the label. In the case of mixtures of bile from any two or all three of the sources mentioned, the label should indicate the sources of such bile.
- Such properly labeled tight containers which are thoroughly clean on the outer surface may be stored in the edible products departments and may be shipped from the establishment in the vehicles containing inspected and passed products.
- 14.9 The removal of inedible and condemned denatured material which may be infectious or contain disease organisms is of concern to State officials who have responsibility for animal disease control. In the cases where this material is moved between States, the officials of more than one State may be involved.
- In order to provide an opportunity for State animal disease control officials to discharge their responsibility, establishments desiring to remove inedible and condemned denatured material should obtain from the State animal disease control officials in the State where they are located, a letter indicating that removal of the material from the establishment is acceptable. The letter indicating acceptance should be obtained annually and a copy of it delivered to the inspector in charge who will use it as justification for permitting removal of the material.
- 14.10 When permission is given to remove diseased, condemned or inedible materials from official establishments under provision of Section 14.5 of the Meat Inspection Regulations, MI Form 403-10 will be issued.
- Permits for removal of diseased, condemned or inedible materials from official establishments when such material is to be used for research or other nonfood purposes as well as educational purposes, are to be issued by the inspector in charge on MI Form 403-10.

Requests for permits which are received in the Washington office will be referred to inspectors in charge for handling in accordance with the instructions contained on the form.

PART 15 — RENDERING CARCASSES AND PARTS INTO
LARD, RENDERED PORK FAT, AND TALLOW, AND
OTHER COOKING

- 15.1 Carcasses and parts passed for cooking should be held under strict control at all times. Trucks and containers used to hold and convey product passed for cooking should be conspicuously marked and equipped with a sealing device.
- 15.2 Edible rendered fats containing tank water in first stages of sourness may be reprocessed if the handling is begun promptly after its detection. There is no provision for rehandling for food purposes rendered fats that contain tank water beyond the first stages of sourness. The fats may not be mixed with sound edible product in any proportion as a recovering process. The product should be retained until further approved processing determines its final disposition. Treatment of rendered fats may be undertaken immediately without waiting for a report from the laboratory.
- 15.3 Cod, kidney, and breast fats bearing the marks of Federal inspection may be admitted into official establishments for edible purposes provided the fats are clean, sound, and otherwise fit for human food.
- 15.4 Salt used to settle rendered fats should be free from extraneous material that indicates contamination with filth but may contain insoluble mineral matter that does not remain in the rendered fat.

PART 16 — MARKING, BRANDING, AND IDENTIFYING
PRODUCTS

- 16.1 Material submitted by establishments through the office of the inspector in charge or his designated representative for approval by the Washington office should be carefully examined to insure that it meets the requirements of the applicable Regulations.
- Only legible imprints of required markings should be submitted for approval or use in an official establishment. Approval of the marks of inspection appearing in newspaper advertisements, billboards, and the like is not necessary, although if the opportunity is afforded to preview such matter locally, the markings should conform to the standards. The mark of Federal inspection should not be used in such advertisements in a misleading way.
- 16.2 The establishment will be required to furnish all brands, including replacements, as they become necessary. When received, new

brands should be delivered immediately into the custody of a Division employee and the approval and use of these brands should be in accordance with the Meat Inspection Regulations.

16.3 Brands bearing the inspection legend should be uniform in size and design and in the exact form of the official brands.

16.4 The control of brands includes those held in supply or storage rooms as well as in service. The owner or operator of an official establishment must make arrangements with the inspector in charge to carry this out.

16.5 The Washington office no longer maintains property records of metal brands bearing the inspection legend. It is not necessary to report lost or unserviceable brands to Washington. Unserviceable brands should be properly defaced and disposed of at the station, except when the 2½-inch rubber brands mounted on aluminum handles which are furnished by the Division become unserviceable, the aluminum handles should be returned to the Meat Inspection Division in Washington for reuse.

16.6 Whether lost or unserviceable brands should be immediately replaced by the establishment is a matter to be determined by the inspector in charge. He determines the number of brands needed to properly meet requirements at the establishment involved.

16.7 An up-to-the-minute inventory of all brands bearing the inspection legend, whether in use or in storage, should be kept at each station.

16.8 Application of the marks of inspection to clothing, walls, posts, and the like must be discouraged. Brands bearing the marks of inspection or other marks should be kept clean while in use. A clear legible imprint of an approved brand cannot be made with a worn or mutilated brand. So-called grade brands, buyers' brands, and marks signifying rabbinical inspection should be placed so as not to obliterate, or be confused with, required markings.

16.9 The legibility of the marks of inspection has been improved in some cases by drilling two small holes (about one-sixteenth inch in diameter) through the face of the hot-iron brands to permit the escape of steam that forms when the hot brand comes in contact with the wet surface of product. The use of cast steel burning brands results in improved and more legible inspection legend imprints on cured products.

16.10 Only approved branding ink should be used. Purple branding ink is composed of "F.D. & C Violet No. 1 dye, water, alcohol, and sugar." Acetone may be added to shorten drying time. Marking pencils containing F.D. & C No. 1 dye should be used for marking meat cuts and carcasses.

16.11 A hot ink brand equipped with a thermostatic control to regulate the temperature of the electrically heated burning element greatly improves branding on meat, meat byproducts, and meat food products. Ink for hot

- 17.51 The term "refined lard" is applied to open-kettle rendered, prime-steam, or dry-rendered lard that has been run through a filter press with or without the addition of a bleaching agent.
- 17.52 When the term "manteca" or "manteca pura" is used as a name of a product, the English designation "lard" or "rendered pork fat," as the case may be, should follow in close proximity.
- 17.53 The terms "chili" and "chili con carne" may be used synonymously and the terms "chili with beans" and "chili con carne with beans" may be used synonymously.
- Tripe and untrimmed cheeks are not customary ingredients of chili con carne. Although beef heart meat is permitted in chili con carne, beef hearts are not.
- To insure adequate identification, the following names will be used for the "Beef Heart" product described: (1) "Beef Hearts" - untrimmed with bone intact, (2) "beef Hearts - Bone Removed" - untrimmed with bone removed, (3) "Beef Heart Meat" - beef hearts with auricles (heart cap) and bone removed.
- 17.54 Pork stomachs, pork skins, pork snouts, and other meat by-products, except fat, are not customary ingredients of a product labeled "Braunschweiger." The name "liver sausage" is inaccurate for a product prepared with meat byproducts to the exclusion of meat.
- 17.55 For an inspector in exercise proper inspectional control over the labeling of meat and meat food products, it is necessary that he have a clear understanding of the applicable Regulations and be thoroughly familiar with the preparation and composition of each product prepared under his supervision.
- 17.56 The name used to designate an article should be the common name, if any, and one which clearly describes the finished product; for example, a product labeled "beef and gravy," "pork and gravy," "pork with barbecue sauce," "meat balls with gravy," or the like, should contain more meat or meat balls than gravy or sauce in the finished product. If upon examining representative samples of the finished product the inspector finds more gravy or sauce than meat, names such as "gravy and beef," "gravy and pork," "barbecue sauce with pork," and "gravy with meat balls" would be accurate and informative.
- 17.57 The statement of ingredients should show the ingredients listed in the order of their percentages according to the amounts used in preparing the product rather than in the order of predominance in the finished product. For example, cooked sausage may contain 10 per cent added water; however, it is customary to use a greater amount of water in its preparation. In such case water should be declared in the statement of ingredients in the order of its predominance by comparison with the other ingredients.

17.58 Potted and deviled meat food product should not contain added moisture, but when water is used to replace the moisture lost incident to precooking some of the meat or meat byproduct ingredients, then water constitutes an ingredient of the product, and should be declared according to the quantity used.

17.59 It is the responsibility of the inspector to see that all meat and meat food products prepared under his supervision are properly labeled.

17.60 (a) A uniform label filing system to aid inspectors wherever assigned is outlined below. Labeling and marking material should be filed in regular filing cabinets as follows:

(1) A separate file is maintained for each official establishment.

(2) The material is filed in chronological order with the last approval in front.

(3) The files are subdivided alphabetically with material filed under the appropriate letter according to the name of product as, for example, under B—bacon, bologna, brains, braunschweiger, ground beef, corned beef, pork shoulder butt, beef and gravy; under C—capocollo, cervelat, cutlets (pork, veal, etc.), chili con carne; under M—luncheon meat, meat food product (potted, deviled, etc.); under P—pepperoni, prosciutto, pudding (liver, tongue, blood, etc.); under S—shortening, steaks, pork sausage, polish sausage, vienna sausage, soups; and under T—tongue, thuringer, tails (pig, ox, and ox tail joints). Material that cannot be readily classified alphabetically is filed under "miscellaneous." Very few items should fall in this class. No other subdivision of the file is necessary, and no distinction is made in the various types of labeling material, such as inserts, wrappers, brands, etc. All correspondence pertaining primarily to labeling or marking devices should be filed with the material with which it is concerned. If a letter concerns more than one label, a cross reference is noted on the label.

(4) Labeling and marking material that has been granted approval for a limited period is filed separately from regularly approved material in order to facilitate removal from the files at termination of approval period.

(5) Material approved in sketch form is filed separately from regularly approved or limited approved material. To keep the number of sketch approvals on hand to the minimum, sketches should be discarded when finished material prepared in accordance with the sketch is approved.

(6) No card or other index system is necessary when labels are filed under the above system.

(7) Each station is furnished MI-405-1 "Meat Inspection Label Cards" for the approved labels being used by the establishments at the station and from time to time this office will send to the stations additional MI-405-1 cards to cover recently approved labels.

(8) To rescind an approved label the management of the establishment needs to mark an "R" on the corresponding MI-405-1 card and return it to the inspector in charge, who will forward it to this office. This should be done as the labels become obsolete. Do not submit lists of labels to be rescinded, as we need the IBM cards in order to pull our corresponding IBM Filmsort cards from our files. Where a packer maintains a duplicate file of approved labels in its central office the MI-405-1 cards may, at the request of the management of the establishment, clear through that office. However, the inspector in charge should know what labels are being rescinded.

Exception: MI-405-1 cards covering labels with temporary approval should be destroyed as the time limit expires.

Whenever an MI-405-1 card covering an obsolete label is returned to the Washington office, the label is to be considered as rescinded. When sufficient MI-405-1 cards have accumulated to warrant making tabulations on our IBM machines, rescinded lists will be mailed to the stations.

(9) At small establishments such as slaughtering plants where only a few marking and labeling devices are used, it is generally satisfactory to file all approved material chronologically in one jacket without subdivisions.

(10)(a) Mounting of labels, inserts, etc., on thin manila or cardboard sheets 11-3/4 by 9 inches or 11 by 8-1/2 inches in size, before filing, aids greatly in keeping the material in good condition and also makes an orderly and neat file. The approval number and date of approval can be written on the upper righthand corner of the manila sheet if it is not readily visible on the label.

(b) The inspector in charge should see that the label file at his station is set up in accordance with the system just described.

17.61 The term "Veal Cutlet" denotes a single slice of veal taken from the round. The thickness of the slice can vary; however, combining several thin slices is not permitted when the term "Veal Cutlet" is used.

17.62 Monosodium glutamate and hydrolyzed plant protein may be used as ingredients of sausage, meat loaf, luncheon meat, as well as other products.

- 17.63 Monosodium glutamate or hydrolyzed plant protein may be used in products such as hamburger, chopped beef, cubed steak, and steak prepared from meat that has been molded after comminuting processes such as grinding, chipping, thin slicing, and the like.
- 17.64 The labels for meat food products containing monosodium glutamate or hydrolyzed plant protein should not show the word "artificially flavored" contiguous to the name of the product.
- 17.65 All questions relating to a product's amenability to the Federal Meat Inspection Act and the Regulations should be referred to the Washington office for answer. Full information should be submitted including the method of preparation of the article, the ingredients used and their proportions, the name of the product, and a sample thereof if it can be obtained. Further information should be given relative to whether the article is intended for interstate or foreign commerce.
- 17.66 Product derived from carcasses of animals injected with papain such as liver, heart, tongue, cheek and head meat, trimmings, boneless beef, tenderloins, tails, tripe, and cuts of meat not showing an imprint of the roller brand reading "Tendered with Papain" shall be properly identified and kept separate from other product. When such product leaves the official establishment, the immediate container shall bear a label showing, in addition to other required labeling, a statement such as "Tendered with Papain" or "Treated with Papain" prominently displayed contiguous to the name of product. The kidneys must be segregated, keeping them properly identified to be used for animal food or tanked.
- The establishment will furnish retail dealers handling such product with labels bearing the statement "Tendered with Papain" displayed in a prominent manner contiguous to the name of product for use by such dealers on consumer packages or product derived from the carcasses of animals injected with papain. Meat Laws investigators and other inspectors who may visit retail markets should observe the effectiveness of this phase of the labeling program. Should they find any retail outlets not following through with this identification, the facts should be immediately reported to this office.
- 17.67 It has been determined that the use of transparent or semi-transparent wrappers or coverings bearing red lines, red scatter print, or other red graphic material in a manner so that the lines, print, or graphic material are positioned over the entire surface of the package gives a false impression of the color of certain products. This is contrary to the provisions of Section 17.8(c)(5) of the Meat Inspection Regulations.
- Transparent or semi-transparent wrappers or coverings as described above for use in packaging of cured, cured and smoked, or cured and cooked sausage products, and sliced meat food products must provide for at least 50 per cent of the total product surface being visible through a wrapper or covering that is free of color, print, or graphic material, to insure that the actual color of the product is easily recognized.

In order to provide establishments with an opportunity to exhaust supplies of presently approved coverings, wrappers or labels that do not conform to the above requirements, the effective date of this memorandum will be extended to March 1, 1965.

PART 18 — REINSPECTION AND PREPARATION OF PRODUCTS

Reinspection

- 18.1 When product has become unclean by accidental contamination and can be cleaned with water, care must be taken to see that pieces are promptly washed individually under a spray of running water. Separate equipment should be provided for this purpose. Use of hand-washing basins for cleaning product is not permitted. Unclean articles referred to in this paragraph must not be accumulated before or during the washing operation.
- 18.2 It may be necessary to heat or otherwise treat products that are suspected of having absorbed odors that are not readily discernible by usual methods of examination.
- 18.3 Unclean frozen product should be made clean in an acceptable manner before being defrosted in water or pickle. Care must be exercised to see that no loose material from containers is allowed to enter the defrosting solution.
- 18.4 All product that is condemned and destroyed for food purposes on reinspection should be reported on Form MI-407 so that the inspection requirements as well as the facilities necessary for disposal of condemned material can be determined. Unclean paunches, stomachs, chitterlings, and unrendered fat are example of products that are frequently retained and the establishment decides to dispose of the material as inedible rather than spend the necessary labor to place it in acceptable condition. In such cases, the action taken by the inspector in retaining the product is equivalent to a decision that the product is condemned unless it is cleaned or otherwise made acceptable for food purposes. Such products should then be reported as condemned on reinspection. An estimate of the weight is acceptable.
- 18.5 Particles of bone in meat food products is a source of consumer complaints and should be guarded against by close inspection. Some of the products in which bones or particles of bone may be found include the following: Tongue trimmings, braines, cheek meat, hearts, trimmings derived from neck bones, ribs, vertebrae, and heads.
- 18.6 (a) The large inverted hair follicles commonly seen in pork jowls must be removed before the product leaves the establishment or is used for further processing.
- (b) Pork jowls intended for use in fabricated products or in rendering should be completely sliced or deeply scored from the "Meat" surface downward in sections 1 inch apart longitudinally and the cut surfaces observed for any unacceptable conditions. Mechanical slicing of frozen jowls in blocks does not permit satisfactory examination. However, mechanical slicing of unfrozen jowls with acceptable inspection by a competent establishment employee of each cut surface immediately after slicing is satisfactory. Facilities should be provided for cleaning and sterilizing contaminated equipment.

18.7 Meat byproducts containing large amounts of skin such as detached bacon rinds, pork snouts, lips and ears, shall not be shipped from the official establishment unless these products are free of visible hair roots and otherwise suitable for inclusion in the manufacture of meat food products such as souse, scrapple, head cheese, etc.

However, if the packages are marked to indicate the skins, pork snouts, lips or ears are intended for rendering or gelatin manufacture, then freedom from visible hair roots will not be required.

18.8 The establishment has the responsibility to present for inspection product that is clean and free of foreign material prior to cutting and boning carcasses and larger cuts. The establishment should designate an inspection area, located prior to the cutting and boning operation, equipped with adequate artificial light and tool and hand-washing facilities. The establishment should designate a competent employee to conduct close inspection to detect and remove foreign material from the carcass or parts prior to boning. The inspector must assure himself that this function is being satisfactorily performed in order that all carcasses and/or cuts are free of contamination, sound, and otherwise fit for processing. Any evidence of improper carcass-dressing operations or inadequate post-mortem inspection should be reported by the inspector to his supervisor.

The inspector shall conduct an inspection of all lots of boneless product after packing and prior to freezing, shipping, or processing. The inspection shall be conducted on a sample basis. The number of samples to be selected by the inspector for examination will be based on the number of production units in the lot. Each container in which boneless meats are packed is considered a production unit. Table I will be used to calculate the number of sample units for examination based on the size of the lot and experience in a particular establishment. Lot designations may be at the election of the establishment and may vary in size from containers of boneless meat derived from one or more carcasses to boneless meats derived from many carcasses over a day's boning production. Production units constituting a lot must be identified in a manner acceptable to the inspector in charge so that the identity of units may be accurately and permanently maintained. Adequate facilities including light of 50-foot candle intensity and a suitable rust resisting metal table for the examination of samples shall be provided by the establishment. Care must be exercised by the inspector to select at random samples throughout the entire production lot. In those cases where sample examination of a given lot indicates the product is contaminated, all products represented by the sample must be retained and reconditioned by the establishment before freezing or shipping. All samples must be examined and a record of each defect noted before final determination of the acceptability of the lot is rendered. After reconditioning of the rejected lot, the inspector

must again conduct sample inspection as outlined above. Should the lot again be rejected because of contamination or unsoundness, the lot shall again be reconditioned by the establishment and 100 per cent inspection of all units in the lot will be conducted by the inspector before the lot is released. Sample units examined by the inspector shall be identified by application of the inspector's initials to the container.

Table I establishes sampling plans for normal, tightened and reduced inspection. All sampling will start with the normal sample plan. The tightened sampling plan shall be instituted after examination of ten lots, if more than three lots have been rejected. Normal sampling may be instituted if there have been no lots rejected in the ten consecutive lots examined under the tightened plan.

Reduced sampling may be instituted at the discretion of the supervisor or inspector in charge provided the preceding ten lots have been under normal inspection and none have been rejected. Normal sampling will be reinstated if a lot is rejected.

TABLE I

Production Units	Plan I Reduced	Plan II Normal	Plan III Tightened
10-20 -----	1	2	4
20-30 -----	2	4	8
30-50 -----	3	6	12
50-70 -----	4	8	16
70-100 -----	6	12	24
100-150 -----	8	16	32
200-250 -----	12	24	48
250-300 -----	14	28	52
300-400 -----	16	32	64
450-500 -----	18	36	72
500-700 -----	20	40	80
700-1,000-----	22	44	88

When the production units are unusually large such as gondola trucks, a representative sample proportionate to the above plan may be examined.

The inspection of boneless meat product at receiving establishments shall be accomplished at time of receipt into the establishment. Direct shipments from official establishments will require less, and indirect shipments will require more critical review. The defrosting of samples is not necessary where direct shipments between official establishments are involved unless there is an indication of contamination or other unsoundness. If such an indication is present, the inspection as outlined in the preceding paragraph shall be made. If this product is frozen, the part to be examined shall be defrosted. Product in blood-soaked, broken and mutilated containers showing an unusual amount of damage is to receive 100 per cent inspection including defrosting.

When fresh or fresh-frozen boneless meat is received by other than direct routes between official establishments, the product shall receive a critical inspection which includes defrosting of samples. While samples are defrosting, the remaining product may go into storage. However, such product will be under a U. S. retained status until the samples have been found to be acceptable.

The inspector shall, in addition to examining the product for contamination, watch closely for evidence of mislabeling with reference to species origin. The inspector should be aware of bruised, blackened, or excessively bloody meat; this may be an indication that the animals from which the meat is derived were dead several hours before butchering.

Inspectors have the responsibility to look behind the marks of inspection in the acceptance of incoming products to verify shipments as actually being U. S. inspected and passed as indicated on the marking. The inspector should require the establishment to furnish pertinent information before or at the time shipments are received into an official establishment. Other factors which the inspector should note are the box maker's marks and identification; the domestic meat label should be an exact facsimile of the approved domestic meat label - quite often there are minor defects in the illegally printed meat labels; deviations from approved marks such as lack of the name and address of the manufacturer or packer should alert the inspector. When examination of the product indicates handling that is inconsistent with federally inspected products, this should serve as cause for alarm. When inspectors suspect illegitimate shipments, they should immediately notify the inspector in charge and place all products under retention.

It is the supervisor's responsibility to assure himself that inspectors under his supervision are performing procedures as outlined. To assure himself of this, at least once a week or more often as necessary, he must examine some sample containers of

product previously examined and released by the inspectors as well as containers from the same lot not designated as a sample. Supervisors are expected to aid the inspector in the implementation of these instructions.

- 18.9 Ice glazing of frozen meat products, which usually consists of treating pork cuts by dipping in water or spraying them with water after they are frozen in a manner which will build up a coating of ice on the surface of the product, is a longstanding practice which has been conducted at storage freezers throughout the country. The procedure is not considered to be a processing operation and is therefore not required to be performed in official establishments.

Ice glazed product may be received into official establishments if it can be identified as inspected and passed. When received as inspected product, careful inspection should be made to determine if any soiling or otherwise unsatisfactory condition is present, and proper reconditioning must be required before other handling is permitted. Generally, reconditioning can be satisfactorily accomplished by washing the outer surface under a spray until the ice disappears.

- 18.10 In order to insure that only wholesome beef kidneys are packaged, or used as ingredients of meat food products, the following inspection procedures should be observed:

(a) Establishment personnel handling or packaging beef kidneys shall separate and hold for further inspection by Division personnel any beef kidneys showing deviations from normal, wholesome characteristics. Cystic kidneys shall not be used for food.

(b) Division personnel shall conduct reinspection of sample packages withdrawn from each lot of packaged beef kidneys utilizing the same criteria which have been established for reinspection of packaged boneless meat.

(c) No lots of package beef kidneys shall be shipped until samples have been withdrawn and found to be acceptable.

(d) In lieu of the reinspection of sample packages, inspection of beef kidneys by having them exposed as part of the post-mortem inspection routines may be accepted.

Preparation—General

- 18.11 (a) Establishments are responsible for preparing all products in compliance with applicable regulations.

Whatever controls are necessary to obtain such compliance must be placed over the manufacturing processes. The following control measures have been found effective:

- (1) Use a specific tested formula for each product and require strict adherence to the formula. If it is necessary to deviate from a formula which is known to produce a product in compliance with the Regulations, the establishment should expect to carefully work out such deviation with the inspector before regular production is started.

- (2) Require accurate measurement and positive identification of all ingredients going into the manufactured product.

- (3) Use specific tested cooking and smoking practices that are known to produce a product in compliance with the Regulations.

- (4) Provide positive identification of product through the manufacturing processes and assure correct marking, labeling, or both, with approved materials.

- (5) Frequently check the weight of the finished product against total amount of ingredients used.

- (6) Provide responsible supervision in the processing department to see that the controls are effective at all times.

(b) Water holding capacity of product during smoking and cooking may be affected by one or more of the following: Use of high speed emulsifying grinders, longer chopping times in improved sausage fabricating equipment, inclusion of pork skin (unskinned pork jowls), or the use of dry ice in chopping operations.

- (1) When an establishment adopts these or other new methods of manufacturing cooked sausage, such as frankfurters or bologna, the inspector should undertake frequent samplings for laboratory analysis. Sampling should be continued until a standardized method of preparation has been established which will produce a sausage that does not contain excessive added water.

- (2) After an acceptable standard method of manufacture has been established, occasional check samples should serve to point up any needed adjustments. Naturally when the method of preparation is changed or when significant formulation changes are made or whenever there is any reason for the inspector to suspect that the finished product is in violation of the Regulations, samples should be taken frequently to assure that only

product which is in compliance with the Regulations is distributed.

(c) The inspector has the responsibility of determining that all products prepared under his supervision comply with applicable regulations. To accomplish this effectively he must:

(1) Have a thorough knowledge of the formulas and manufacturing processes used in preparing each product. To obtain this information the inspector will observe the formulation of the product and manufacturing processes sufficiently to become thoroughly familiar with the practices used by the establishment.

(2) Require such controls by the establishment as will result in all product manufactured being in compliance with applicable regulations concerning composition and correct marking and labeling.

(3) Be certain that all product within the area of assignment is prepared with appropriate formulas and by methods that will result in compliance with the Regulations.

(4) Know that all ingredients used in the preparation of products are wholesome and acceptable.

(5) Permit the distribution of product that is in compliance with the Regulations and retain any product that

18.16 All materials such as curing mixtures, seasonings, spices, tomato puree, cereals, nonfat dry milk, and the like, should be labeled to show the name of the article and a list of ingredients if composed of two or more ingredients when delivered to the establishment. In addition the materials should be enclosed in a sanitary container and should show the name and address of the manufacturer. Inspectors should reject materials that do not comply with these requirements. When a material meets these requirements and is one that has been approved for use in meat food products, the inspector should make the usual examination for acceptability. Where a laboratory examination of the material is considered necessary, the sample form should show the complete identity of the material.

18.17 Nonfat dry milk has been approved for use with proper declaration in sausage and meat loaves. Dried buttermilk and calcium caseinate have not been approved for use in meat food products. Mixtures of nonfat dry milk with other substances except as a minor ingredient of complex mixtures such as gravy or breeding mix are not acceptable.

18.18 No mixture containing albumin from inedible material has been approved for use in meat food products. Dried whey (food grade) conforming to the standard adopted by the Meat Inspection Division and sodium caseinate have been accepted for use in the preparation of loaves (other than "Meat Loaves"), stews, soups, and imitation sausage. Dried whey and sodium caseinate should not be accepted into official establishments when mixed with other substances except as a minor ingredient of complex mixtures.

The importance of adulteration with sodium caseinate in sausage and meat loaves is due not only to the use of an unacceptable ingredient, but because of its high protein content it facilitates adulteration of product with water.

Inspectors should develop and enforce specific control measures to prevent use of sodium caseinate in sausage and meat loaves. The control measures should be designed to operate effectively considering the facilities and method of operation of each sausage department. The basic features of the control should include:

(a) A continuous inventory of the amount of sodium caseinate on hand in the establishment and the amount used daily.

(b) A determination that seasoning materials are not adulterated with sodium caseinate.

(c) Sodium caseinate is not brought into the establishment under another name.

(d) A daily balancing of the amount of product which legitimately contains sodium caseinate and the amount of this material actually used.

(e) Occasional requests for sodium caseinate analysis in samples submitted for laboratory examination.

Meat inspection supervisors should assist inspectors when necessary in developing adequate controls and assure themselves that such controls are continuously in effect. When inspectors are rotated on assignments, care should be taken to see that the control procedure is understood and operated effectively by the new inspector.

18.20 Lye solution for removing the outer surface of vegetables is permitted provided the lye solution is completely removed before the vegetables are processed further.

18.21 (a) Salt containing approved kinds and quantities of an anticaking agent may be used. These agents are usually tricalcium phosphate, calcium carbonate, or magnesium carbonate, used singly or in combination. However, this permission does not cover the use of these agents as such in meat food products.

(b) Salt which comes in contact with meat or product should be clean and free from extraneous materials, including rock or slate particles normally found in rock salt. The commonly used recrystallized or vacuum-pan granulated salt, with or without anticaking agent, is acceptable for this purpose.

(c) Salt solutions used for curing, defrosting, or for wetting cloths prior to application to dressed carcasses should be clear. The salt used to prepare the solutions should be free from extraneous material which indicates contamination

webbing, or refuse which could not be removed by the cleaning procedures. Beans from an accepted lot should not be used in product until the cleaning process has removed all foreign material (stones, dirt, weed seeds, and cereal grains) and beans damaged by insects. Beans less severely damaged by insects (in which the seed coat is slightly affected) and those slightly damaged by frost, weather or disease may be included in product. Broken beans and beans with the seed coat partially or wholly removed may also be included. Establishments not having bean-cleaning facilities should receive only beans entirely free of defects that make them unsuitable for inclusion in product. All beans should be thoroughly washed before use.

- 18.27 Certain seasoning preparations contain various amounts of dried corn syrup, dextrose, and the like. In the enforcement of the requirement that not more than 2 per cent of dried corn syrup or corn syrup solids be used in meat food products such as sausage, hamburger, meat loaf, luncheon meat, chopped ham, and pressed ham, inspectors should take into consideration the amount of such sugar added to product by the use of seasoning preparations. Inspectors should make use of the laboratory for determining the amount of sugar other than sucrose or dextrose in the seasoning preparation when this information is not shown on the label. The amount of corn syrup solids in pickle is limited to 50 pounds per 100 gallons based on the dry weight. Since corn syrup contains about 20 per cent water, 60 pounds of corn syrup may be used. These amounts should be adjusted when pumps other than 10 per cent are made.

- 18.28 (a) Thermocouples connected to recording equipment may be used for taking temperature of products that are heated to destroy possible trichinae provided the inspector has assured himself by checking the thermocouples with an official thermometer that the temperatures recorded are accurate. Placing thermocouples in product must be under the supervision of an inspector and an adequate number of thermocouples must be used to determine that all product in the smokehouse reaches the necessary temperature. In permitting use of this equipment the inspector must assure himself that there is no possible way of recording a temperature that was not obtained in the product being treated for trichinae.

Section 18.10 (c)(1) of the Meat Inspection Regulations requires that pork muscle tissue be heated to a temperature not lower than 137°F. The inspector must therefore know that all such product is adequately heated. When it is determined that a cold spot exists in a heating chamber, the establishment should take such action as may be necessary to eliminate it. Defects in the number or location of heating coils or air ducts in a smokehouse or lack of proper insulation of the heating compartment or unit are the usual causes for cold spots. Some difficulty also may result from uneven loading or distribution of the product in the heating compartment.

When taking the temperature of product, care must be exercised to obtain the lowest temperature in the product. Special attention should be given to the largest pieces of product or the innermost links of bunched sausage. In small varieties of sausage placed in direct contact with wooden smokesticks when the temperature of sausage is only slightly above 137°F., the temperature should also be taken of that part in direct contact with the wooden smokestick.

(b) In some establishments equipment such as grinders, choppers, mixers, etc., are used interchangeably in the handling of pork which possibly contains live trichinae and products that are free of live trichinae. Necessary precautions must be taken to assure that those products that are free of live trichinae and which will be distributed from the establishment without further treatment are not contaminated with live trichinae.

Preparation—Curing, Smoking

18.29 Only clear solutions free from insoluble suspended material or other contamination should be injected into meat for the purpose of curing.

18.30 (a) Cover pickle that is clear, free of sediment, and does not show evidence of decomposition may be reused. Pickle which escapes during the pumping of blood vessels or during the mechanical injection of curing solutions may be reused under proper conditions. These conditions include sanitary collecting equipment and efficient filtration (faint hemoglobin color permitted) before mixing with new pickle. All pickle lines should be made of stainless steel or approved plastic and those carrying salvaged pickle must be demountable for cleaning at regular intervals.

(b) Monosodium glutamate or hydrolyzed plant protein may be added to the pumping pickle, cover pickle, or dry-cure mixture for cured meats. When used in such cured meats as hams, bacon, pork shoulder picnics, cured beef, and tongues, no change is required in the labeling.

(c) When samples of cured meats containing monosodium glutamate or hydrolyzed plant protein are sent to the laboratory for analysis, the inspector should furnish information on Form MI-422 concerning the amount of monosodium glutamate or hydrolyzed plant protein used for each 100 pounds of finished product.

(d) Corn Syrup Solids in Pickle—

To standardize our requirements and to preclude the possibility of adulteration of cured pork and beef products, it has been decided to limit the amount of corn syrup solids or corn syrup in pickle to 50 pounds per 100 gallons based on the dry weight. Since corn syrup contains approximately 20 per cent water, 60 pounds of corn syrup is considered to be equivalent to 50 pounds of the solids.

18.31 Cured hams intended for canning may be shipped from one establishment to another if shipments are properly identified to the receiving inspector in charge. To do this, hams should be accompanied by a properly modified Form MI-408-1 which indicates that they are eligible for canning in accordance with the applicable regulation.

18.32 Cured boneless pork loins and sizable pieces thereof which have been treated for the destruction of possible live trichinae may be shipped provided they bear the marks of inspection. It is not necessary that they then be forwarded in sealed containers or sealed vehicles.

18.33 Official establishments should provide adequate facilities for the control of boneless pork loins during the curing process or adopt operating practices that will eliminate any possibility of shipping untreated cured boneless pork loins.

18.34 A cured, boned, and rolled whole ham, unsmoked, either tied or in a casing, is commonly termed "Scotch Style Ham" in certain localities. As Scotch Style Hams are customarily well cooked in the home or elsewhere before being served, they need not be treated for the destruction of trichinae.

18.35 Section 18.7(r) of the Regulations provides for the addition of phosphate to pumping pickle for cured hams and pork shoulder picnics. This has been extended to include cured pork shoulders, Boston butts, boneless butts, and pork loins.

18.36 The Armed Forces desire at times to purchase smoked hams smoked at temperatures sufficiently high to impart a partially cooked appearance to the meat. We have acceded to their request not to require such product to be treated to destroy possible live trichinae as contemplated by section 18.10 of the Meat Inspection Regulations when such ham is to be consigned to the Armed Forces. However the Regulations remain in full effect as they apply to smoked hams that are not consigned to the Armed Forces. Smoked hams prepared for delivery to the Armed Forces must not be diverted into channels of trade until they have been treated by one of the methods prescribed in the Regulations for destruction of trichinae.

Preparation—Canning

18.37 The requirement of section 18.1(b)(1) of the Regulations does not change the status of such relatively stable products as lard, sliced or slab bacon, sliced dried beef, and the like which are sometimes distributed in hermetically sealed containers.

18.38 Devices for measuring temperature, including thermocouples and various types of thermometers, are available at official establishments for taking temperatures of product during processing. Inspectors may make use of any such devices in their inspection work, providing they have been checked adequately against an official thermometer to insure accuracy and dependability. When distant reading devices such as thermocouples are used for measuring the temperature of product, the sensitive element must be placed in the coldest part of the product just as is done with thermometers.

18.39 There should be a close synchronization of can-filling lines and heat processing. It is not sound practice to produce at the filling lines beyond normal retort capacity. This may cause a delay in heat processing or a tendency to hurry some phases of the heating operations. The type and temperature of the canned product as well as the size of the can are some of the factors that must be considered in determining how promptly the product must be heat processed after closing. Cold-packed products should be maintained at a low temperature until heat processing begins.

(b) The following restrictions apply to hermetically sealed, canned product processed and labeled under a "Perishable, Keep Under Refrigeration" statement:

1. No approval has been given for canning uncured products under a "Perishable, Keep Under Refrigeration" warning statement.

2. Cured, unsmoked, boneless pork shoulders, pork shoulder butts, or luncheon meat may be canned without steam pressure cooking, provided the labeling "Perishable, Keep Under Refrigeration" is used. This includes such products in cans having a net weight of 12 ounces or more. The acceptable method of preparation of such product includes curing the product prior to placing it in the can and subjecting the canned product to a cooking process which will assure that an internal temperature of at least 150 degrees F. is obtained. The statement, "Perishable, Keep Under Refrigeration", shall be shown prominently on each principal display panel of labels for such canned product.

3. Cured meat loaves, cured nonspecific loaves and similar cured products, the formulas for which do not include cereal or starch, may be canned under this type of processing provided the formula includes 1 ounce nitrate per 100 pounds product, 1/2 per cent dextrose or 1 per cent sugar, and the finished product demonstrates a brine concentration* of not less than 3.5 per cent. An internal temperature of 150 degrees F. must be attained during processing in hot water. (Nonfat dry milk and sodium caseinate do not contain starch and loaves containing these ingredients may be handled as outlined in this paragraph.)

4. Cured meat loaves, cured nonspecific loaves and similar cured products containing cereal, starch or similar extenders must meet the same restrictions outlined in paragraph 3, except in addition, the brine concentration* must not be less than 6 per cent. (*The brine concentration is calculated by dividing the amount of salt by the sum of the total water and the salt. This will be determined by the chemical laboratories upon request.)

In addition to temperature and other factors outlined above, the inspector must examine samples of finished product to satisfy himself it exhibits usual cured characteristics. The addition of nitrate alone immediately prior to canning may not result in a cured product.

Some of the known environmental factors which influence the germination and growth of microorganisms include temperature, salt concentration, pH, presence or absence of starch, sugar, nitrate, nitrite, kind and numbers of microorganisms, etc. The relative importance of each factor in relation to the total other factors is not well established. The numbers and kinds of organisms in cured canned "Perishable" meat items are of great importance; therefore, the inspector should be particularly alert to see that cured product ready for canning is fully sound and has not been handled in a questionable manner.

If sweller cans develop in a lot under normal handling conditions, the code should be determined and an unopened can submitted to the Biological Sciences Laboratory for evaluation together with full information pertaining to the production of the canned product to be evaluated.

18.40 Ample but not excessive head space should be allowed in hermetically sealed containers. Deceptive filling of containers cannot be condoned. Overfilling cans should be avoided.

18.41 Make periodic checks to determine that cold spots do not exist in the heat processing equipment. Exhaust boxes should receive attention as to cleanliness and adequate heating apparatus. There should be free circulation of heat throughout.

18.42 It is not necessary to exercise close supervision over the internal temperature of sausage prior to canning when it is known that such product will be subsequently canned with adequate heating.

18.43 Canned product should be handled, stored, and shipped so as to avoid damage from extremes of heat or cold, rusting, and denting.

18.44 The repacking and reprocessing of contents of defective cans which have been handled as outlined in section 18.11(d) of the Meat Inspection Regulations should include processing by heat fully equivalent to the original processing.

18.45 Establishments may process certain canned products without steam pressure cooking after they have obtained permission from the Director of the Meat Inspection Division. Such products must have been prepared in accordance with methods of preparation shown on approved labeling material for this type of product. This includes use of the ingredients and the development during processing of internal temperatures as specified in the label approval. In addition, labeling should include the perishable warning statement.

18.46 Canned product that is not processed after canning which has a minimum acidity of pH 4.5 may be prepared in official establishments providing permission of the Director of the Meat Inspection Division has been obtained. Further, such product should be prepared in accordance with methods of preparation shown on approved labeling material for this type of product. pH values should be determined by laboratory analysis.

18.47 At least one container from each basket in a retort should be incubated as a sample of a lot of processed canned product. Incubation of test samples should be accomplished in an acceptable room or compartment held under Division lock. Incubation of a certain sample may be discontinued before the full 10-day period has elapsed if it becomes apparent that the product does not possess the necessary stability to assure its keeping under usual conditions of handling, storage, and transportation. Corrective action regarding the lot should be started at once. Sample incubation is not always positive proof of the character or stability of the entire lot, and it should be used in addition to but not in lieu of constant vigilance and supervision of all processing procedures. There should be no hesitancy to increase the number of cans selected for incubation if there is cause for such action. Careful inspection of product being incubated should be made at least daily.

18.48 Restrictions on the use of water or ice in the preparation of luncheon meat and meat loaf are extended to canned chopped ham, canned chopped pork generally, and canned chopped mixtures of pork and other meats. The quantity of water or ice that may be added to luncheon meat

and similar products is based on the percentage of ingredients going into the preparation of the product. Therefore, strict control is exercised at the time of preparation and is not based on the finished product. The amount of water used in the fabrication of the product should be listed in the ingredient statement according to its percentage at the time of manufacture and not as it occurs in the finished product.

18.49 (a) The use of efficient jet-vacuum type equipment has been accepted for cleaning jars and cans before filling in lieu of cleaning with hot water as required by the Regulations. The air cleaning method involves the direction of a powerful stream of filtered air into the open top of the upright container immediately followed by complete evacuation of the container by means of a vacuum-producing device. In properly functioning equipment the air jet dislodges dust, particles of cardboard and other extraneous material and the vacuum removes these materials just as effectively as the conventional hot water cleaning methods.

Since it is difficult to determine if the cleaner is functioning properly, it is required that such equipment be equipped with safety devices to indicate malfunctioning of either the jet or vacuum-producing parts.

It is also required that the empty containers should be removed from shipping cartons and fed onto the conveyor passing through the cleaner at a location protected from the exhaust currents from the cleaner since it is likely that dust and carton fragments deposited on the unloading table will be blown into the air and deposited in the container after cleaning and before filling. If this is not possible, other means acceptable to the inspector in charge must be taken to properly control the exhaust currents such as, for example, venting the exhaust ducts to the outside.

(b) Analysis of various contaminants found on hams in Pullman-type cans revealed the contaminants fell in three areas: (1) Small solder splatter pellets, (2) Small particles or flakes from the inside can lacquer, and (3) Various contaminants and dirt from unclean product or cans.

The tiny solder splatter pellets constitute the minor part of this problem and can manufacturers have been contacted to eliminate or at least greatly reduce this problem in the future. Particles of interior can lacquer might be loosened when the can is placed on the stuffing horn. Close attention should be given to the condition of the stuffing horn to see there are no sharp rough edges which might cause the lacquer to flake.

The major problem appears to be paper lint or dirt which was not removed from the can in the normal can washing operations. Apparently, can washing facilities designed for shallow cans do not begin to accomplish a thorough washing of the long Pullman-type can. Inspectors are alerted to give this full attention. If necessary, the can washing facilities should be redesigned to insure a large amount of flushing water to all parts of the can. Mechanical brushing may even be necessary to accomplish the desired results.

Preparation—Sausage

- 18.50 Finished casings prepared at unofficial establishments may be received into official establishments and used as containers of meat food products provided they present no objectionable condition. Unsound casing must be rejected. Animal casings of foreign origin should not be rejected solely because of their dark color. Casings are inspected when they are presented for use as containers. Sewed animal casings should be carefully examined before use, particularly at the inner seams. Excessive fat should be removed from animal casings before use. Hog bungs should be free of hair and scurf at the crown end.
- 18.51 Animal casings for use as containers must be thoroughly flushed throughout their entire length before stuffing. Whether this can be done singly or collectively can be determined at the establishment by the inspector. Animal casings that have been flushed prior to receipt at the establishment and are packed in a salt solution or salt and glycerin solution may be used as containers after thorough rinsing and without additional flushing if found to be acceptable by the inspector. Materials such as antibiotics, antioxidants, preservatives, nitrite and nitrate are not permitted to be in preflushed casings used at official establishments. A laboratory analysis for these materials should be requested occasionally.
- 18.52 If the lips from cattle, calves, sheep, and goats are used in the preparation of meat food products, they should be chopped to a fineness that completely destroys the conical shape. Where conventional type choppers are used experience has demonstrated that the shape of conical papillae cannot be destroyed with certainty unless the lips have first been cooked and the mucous membrane has been removed.
- High-speed emulsifying grinders appear to destroy the identity of the conical papillae without prior cooking. Where this has been accomplished to the satisfaction of the inspector the requirements of scalding and removal of the mucous membrane from lips may be omitted.
- 18.53 The following are not considered normal ingredients of sausage: Eggs, cheese, pickles, macaroni, vegetables. Blood, kidneys, and detached skin are not to be used in the preparation of such types of sausage as bologna, frankfurter, vienna, and braunschweiger.
- 18.54 The application of approved clear mineral oil or edible vegetable oil to the outer surfaces of dry or semidry sausage casings as an inhibitor of mold formation has been accepted. Such application must be made after the prescribed treatment for the destruction of possible live trichinae has been completed on applicable products.
- 18.55 Product prepared with meat byproducts to the exclusion of meat cannot be regarded as sausage.
- 18.56 The proportion of a condimental substance that may be added to sausage to augment its palatability is dependent on many variable factors. Substances having a strong pungency, aroma, or appetizing quality should be in lesser proportion than substances having those qualities in lower value. On the other hand, condiments, especially those highly colored, should not be added beyond their usefulness as such. For instance,

paprika and oil extracts or emulsion of paprika have a low pungency, so a product to which these are added may be considerably altered in color before the condimental effect is apparent. In such a case, coloring properties must be taken into consideration along with seasoning value to determine the proportion that may be used in any given product without producing a deceptive condition with respect to the quality,



kind, or amount of meat used in the product. A larger amount of the condiment may be used, however, if it is considered a customary ingredient of a specific product.

18.57 Equipment used in the preparation of sausage containing cereal or other permitted materials of similar kind should be made acceptably clean before it is used to prepare product not containing such additives.

18.58 Cereal is not a permitted ingredient of thuringer or corned beef hash.

18.59 Meat byproducts, cereal, and nonfat dry milk are not permitted in mettwurst.

18.60 (a) It is important to differentiate between the basis on which water may be added to sausage which is not cooked and that which is cooked. Sausage which is not cooked may contain up to 3 per cent of added water, based on the total ingredients used in the preparation. The added water is not calculated on analysis of the finished product but on the percentage of materials going into its manufacture. On the other hand, cooked sausage may contain up to 10 per cent of added water, as determined by analysis of the finished product.

(b) In the laboratory examination of canned frankfurters and vienna sausages packed in water or brine, the formula shown below will be used by our laboratories. It recognizes and differentiates water absorbed from the packing solution after canning over and above the stated net weight.

$$M = \frac{(dw \times m) - (dw - lw)}{lw}$$

$$P = \frac{dw \times p}{lw}$$

$$AW = M - 4P$$

Where: M = Calculated moisture in product
P = Calculated protein in product
dw = Drained weight
lw = Labeled weight
m = Total moisture by analysis
p = Total protein by analysis
AW = Added water

Canned frankfurters and vienna sausages to be packed in water or brine must comply with moisture requirements before canning as outlined in Section 17.8(c)(40) of the Meat Inspection Regulations. Checking for compliance with the net weight statement of the finished canned product will continue to be as stated in Parts 17.32, 17.33, 17.34, and 17.35 of the Manual of Meat Inspection Procedures. Overpacking of product that contains excess water to gain compliance in sausage content will not be permitted. The consumer must be assured of receiving product in compliance at the net weight of the sausage stated on the container.

- 18.61 The use of monosodium glutamate or hydrolyzed plant protein does not in any way alter the amount of water that may be used in the preparation of luncheon meat, meat loaf, and fresh sausage, nor in the amount of water that may be present in cooked and smoked sausage. When samples of such meat food products are sent to the laboratory for analysis, information should be furnished by the inspector on Form MI-422 concerning the amount of monosodium glutamate or hydrolyzed plant protein used for each 100 pounds of finished product. For each ounce of monosodium glutamate or hydrolyzed plant protein used per 100 pounds of finished product, 1/16 of 1 per cent will be deducted from the total protein before computing the amount of added water in the product.
- 18.62 Unskinned pork jowls which are free of hair roots may be used to the extent of 50 per cent of the meat formula in the preparation of Vienna Sausage, Frankfurter Sausage and Bologna Sausage. The unskinned jowls shall be ground to the fineness necessary to prevent a change in the character of the finished sausage.
- 18.63 (a) As outlined in Part 18 of the Regulations, sausage shall be prepared with meat and meat byproducts. Since smoked meats are considered meat food products they are not eligible for use in sausage except that byproducts of the industry, such as bacon ends and pieces and trimmings from other cured and smoked meats may be included in such products as cured sausage, luncheon meat, loaves, chopped pork and the like to the extent of 10 per cent of the meat and meat byproduct portion of the formula. Any phosphate introduced by this means will be present in such negligible amounts no useful purpose would be served by a label declaration. In such products for which our standards of composition permit only 3 per cent water to be used in their preparation, it is necessary that the moisture included with the trimmings be considered in determining compliance.
- (b) Rework of fresh pork sausage and similar type product enclosed in edible collagen casings may be used in the production of emulsion-type sausage, such as frankfurters, without removal of the collagen casing providing the product is sound, wholesome, and otherwise acceptable. Since collagen is a normal constituent of meat, it is only necessary that its character be altered to blend and dissolve in the emulsion. When the type of processing is such that the ingredients are finely chopped or emulsified, as in the production of frankfurters, it has been demonstrated that this is accomplished.
- 18.64 Mustard, because of its low potency and high protein content shall be limited in sausage and meat loaves to not more than 1% based on the weight of the finished product.
- The use of spices and seasonings or mixtures thereof in certain meat food products should be restricted so that no more than 0.35 per cent protein is added. The limitation applies whenever the protein content serves as a basis for some form of control such as calculating added water, added substances, trimmable fat, water-protein ratios and phosphorus blanks.

The protein content of permissible spices and seasonings is such that if the amount used in the product is less than 1 per cent, no more than 0.35 per cent protein will be added. If the amount used is greater than 1 per cent, is unknown or if prohibited high protein additives are suspected, a sample should be submitted to your laboratory for protein determination. The laboratory will make the analysis and report the maximum amount of the preparation which may be used without exceeding the 0.35 per cent protein limitation.

It is recommended, where practical, that samples of spices or seasonings and mixes be taken just before addition to the product.

18.65 When water is used as a solvent for the nitrate ingredient and so added to gain a more even distribution of the curing agent, or when wine is added principally as a flavoring to certain kinds of sausage processed under limitations prescribed in subparagraph 18.10(c)(3)(i) of the Regulations, it is permissible to add not more than approximately $\frac{1}{2}$ of 1 per cent of water or 1 per cent of wine to sausage of the type that is treated for destruction of possible live trichinae by any one of the methods prescribed in subparagraph 18.10(c)(3)(i) of the Meat Inspection Regulations. When used, such ingredients should be shown in the statement of ingredients in the order of their percentage content.

18.66 Acidification with vinegar, lactic acid, or citric acid of approved dye solutions for application to casings is permitted.

18.67 Artificial casings impregnated with soluble approved dyes may be used in official establishments for the small varieties of sausages under the provisions of section 18.7(m) of the Meat Inspection Regulations. The certification required for coal tar dyes under section 18.7(m)(2) should be furnished with each lot of such dye-impregnated casings. "Blow-out" sausage, the sausage resulting from broken casings, and that which is stripped from the ends of the casings in order to effect the tie, may be reworked into subsequent lots of the same kind of sausage provided there is no perceptible coloring of the finished sausage as a result of the inclusion of this material.

18.68 The inspector should examine the products for color penetration before they leave the establishment. Corrective action, if indicated, should be taken before the product is shipped. Laboratories should not be asked to examine product for color penetration.

Preparation—Permitted and Prohibited Ingredients

18.69 Ingredients such as dried or candied fruits, dehydrated vegetables, and fruit juices containing small additions of sodium benzoate or benzoic acid, sodium sulfite or sulfur dioxide, or combinations of these for the purpose of preserving the ingredient may be used in the preparation of those meat food products in which such ingredient is customary. For example: dried or candied fruits, including maraschino cherries, may be used for decorating cooked smoked pork cuts; dehydrated vegetables for preparing soups and hashes; and fruit juices for flavoring certain stews and soups. These preservatives need not be declared on labeling material for meat or meat food product.

18.70

Ingredient mixtures containing cereal or soya flour are acceptable for use in products where a maximum percentage of cereal or soya flour is specified in the Regulations only when the mixture is labeled to show the percentage of cereal or soya flour it contains. Ingredient mixtures of nonfat dry milk or dried whey with other substances are not acceptable for use in sausage, meat loaves, or those products having added water restrictions.

Preparation—Sampling, Samples

18.71

(a) Laboratories are maintained by the Meat Inspection Division for analyzing samples and performing other special examinations of products, ingredients, and materials to provide the inspector with information he needs to be sure that all products under his supervision are prepared according to the Regulations.

(b) The inspector must be continually alert to detect substances, such as those contaminated by rodents, insects, molds, and dirt, that are unsuitable for inclusion in food. The detection of such contamination often does not require a laboratory examination. Materials such as seasonings, spices, and cereals have been found infested with insects in various stages of their life cycle when received at official establishments. In other instances, infestation has been found after the material has been in storage in the establishment and could occur when fresh supplies are placed in bins or containers that are infested. At some stages (adult, larval, and pupal) the insects are very small and could be easily overlooked. While most infestations can be detected by giving these materials a very careful examination before use, inspectors should frequently send samples to the laboratory where a more thorough examination can be made to determine acceptability.

Since some foreign matter cannot be detected by visual inspection, samples of flour, spice flavorings, curing materials, nonfat dry milk, tomato puree, and the like should be sent to the laboratory for examination.

(c) Part 17 of the Meat Inspection Regulations gives the minimum requirements for a number of prepared products, so that the inspector can control the preparation of every batch of product. The Regulations also specify the fat content of hamburger and fresh sausage and the gain permitted in hams for canning. The laboratory may be used for checks on such products, but the primary control is vested in the inspector in the establishment.

(d) When not more than the permitted amounts of curing materials are added to product, there should be few violations for excess nitrite. Sufficient checks of finished product should be made, however, to know whether the conversion of nitrate to nitrite has been greater than normally expected.

(e) The inspector should not be concerned with the ability of a particular laboratory to handle necessary samples. Any adjustments in this respect will be made by the Washington office.

(f) Samples may be collected any day of the week. Obviously, the collection of samples should not follow a definite schedule. Care should be taken to have samples of perishable products arrive at the laboratory in good condition.

(g) Samples taken for laboratory analysis should be truly representative of the entire lot. The sample should be properly identified from the time it is taken until it reaches the laboratory. Information on Form MI-422, which accompanies the sample, must be fully explanatory and include the name of the product as it will be labeled, the list of ingredients in the order of their percentages at the start of preparation, and the establishment from which the product originated. In most cases the sample should be taken from finished product, although investigational samples may be collected at any point in the operation. In the case of proprietary mixtures, a list of the ingredients as they appear on the shipping containers, the name and address of the manufacturer, and the purpose for which the material is intended should be noted on the laboratory form. Dry mixtures should be submitted in the smaller size plastic film bag (approximately 3 by 6 inches flat) and the bag should be almost completely filled. Liquid materials should be submitted in the conventional 4-oz. sample bottle. If a shipment consists of more than 1 bag, barrel, or other container, a proportionate number of samples should be taken at random throughout the lot. Any article received in an establishment and not identified by name and ingredient statement should be withheld from use until satisfactory identification has been made.

(h) When sampling cereals, spices, and similar materials the inspector upon opening the package should remove and examine a sufficient portion of the contents to ascertain whether the article is uniform throughout and to make sure that the sample represents the lot. Unfit materials should be rejected. Laboratory analysis of articles known to be unacceptable usually serves no useful purpose.

(i) Plastic bags furnished by the Meat Inspection Laboratories should be used in lieu of metal cans as containers of meat and meat food product samples.

Approximately 1 pound of product should be placed in the plastic bag. Sausage and meat food products of the larger types need not be cut in small pieces. No paper or other absorbent material should

(2) Certain stations located a considerable distance from the chemical control laboratory serving them may find it necessary to forward samples to be examined for nitrite under refrigeration, such as might be obtained by packing the sample with dry ice. Chemists in charge of laboratories should assist inspectors in developing satisfactory mailing procedures by reporting those occasions when the sample arrives in a decomposed condition. In such cases it would probably be desirable to indicate the date and hour that the sample arrived at the laboratory.

(3) When necessary, fresh products such as pork sausage and hamburger should be protected from decomposition by the addition of approximately 10 drops of formalin to the product at the time the sample is collected. The product and the formalin should be thoroughly mixed by kneading the package after it has been closed. When so treated the sample form should carry a statement such as "10 drops formalin added."

(4) If a perishable sample is to be transported in excess of 200 miles, it should be shipped via airmail to insure efficient handling of sample. DO NOT SHIP BY AIR EXPRESS.

(a) Clearly address the package by either printing or typing the name, address, and zip code of the recipient on a U. S. Government Frank (Form AD-11) and firmly secure the frank to the package.

(b) Securely fasten one POD Label 19 to each side of the package.

(c) Securely attach (where it will be clearly visible at all times) a POD Label 38 to the package.

(d) Where feasible, deposit the package at the local post office to expedite handling.

(e) POD Label 19 and Label 38 can be obtained from your local post office.

(f) Packages being mailed to the Biological Sciences Laboratory, Beltsville, Maryland, should be addressed as follows:

Biological Sciences Laboratories

Meat Inspection Division

Building 318, Room 101

Agricultural Research Center

Beltsville, Maryland 20705

18.72

(a) Form MI-422 is designed for reporting one sample only. The establishment number and sample number should be shown on the form in the designated space. The previously used single series for all products will be replaced by a separate series of numbers for each product. The serial numbers will be used in conjunction with the establishment number as practiced in the past. Sample numbers should begin anew the first of each fiscal year (July 1).

Log books for samples will be replaced by:

(1) Charts used only for cured and smoked, cooked or canned pork product will be continued.

(2) A sample record as illustrated in example number 1 will be used for all other meat food products with a separate number series for each product. See Example (1).

(3) A sample record as illustrated in example number 2 will be used for all non-meat items using one series of numbers. See Example (2).

The second column in the sample record (Example 1) is to be used for the product code number as listed on the MI Form 422-A. The month columns will be used for listing the sample series number at the time a sample is submitted. When the sample results are returned, the series number in the record will be crossed with a line (Ø) if in compliance or encircled if in violation (6). Sample results in the "B" or "C" categories are to be recorded as 1B or 4C unless action is required for category "A" and recorded as a violation. When entering product in the sample record for meat food products, it will be noted that in some instances two or more products may have the same product code number. This will result in two or more MI Forms 422 having identical number identification. In this case, the "Franks, All Beef" or "Franks, All Meat" will identify the product under which the sample is recorded.

Example #1

MEAT AND MEAT FOOD PRODUCTS

Product	Code	Jul	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	June
All Meat Bologna	340 11					1 6 2 7 3 B 4 C ⑤	8 9 C 10 11	12 13					
Bologna - Cereal Added	340 13					1 2	3 4	4					
Franks - All Beef	330 11					1 2							
Franks - All Meat	330 11					1 2	3 4						
Franks - NFDM Added	330 14					1 2	2 3	4 5					
Franks Cereal Added	330 13					1 2	2 3	3					
Pork Sausage	310 10					1 ② 3	④ 8 ⑥ 7 8	9 10					
Hamburger	460 10					1	2						
Chili - No Beans						1	2						
Chili with Beans						1	2						
Luncheon Loaf						1							
Liver Sausage - NFDM Added	340 34					1							
Braunschweiger	340 31						1						
Tastee Loaf							1						
Xout Loaf								1					
Sure Fire Loaf								1					
BBQ Loaf						1							
Chopped Ham							1						

Example # 2

NON-MEAT ITEMS

Product	Jul	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	June
Nonfat Dry Milk					1	7	11 13					
Dairy Farm					2		12					
Gilroy Creamery							10					
Gelatin					3							
Grays Lake Co.												
Soap - Hand					5							
Oakite No. 188												
Salt						8						
Seasoning Frank					4			14				
Griffith												
Kearnsmith						6						
Kadison						9						

(b) When using Form MI-422 (snapout type) inspectors should place it on a hard even surface and make the entries in such a manner that they will be legible on all copies. Do not remove carbons from the form before sending it to the laboratory. Items 6 and 7 on the form will be completed by the laboratory so should not be used by the inspector. Distribution instructions printed at the bottom of the form should be followed.

(c) All sample forms for products should include the inspector's request for information concerning the product represented by the sample. He may indicate the information desired by placing a check mark, or check marks, in the column to the left opposite the appropriate items listed; for example, "added water," "N.F.D. milk," "cereal." If an item requested is not listed under No. 8 the check mark should be placed to the left of "Other" and the specific request written in the space provided. Unless a sample is accompanied by a form asking for specific information, the sample will be discarded by the laboratory. The laboratory will return the form to the inspector with a notation to that effect.

(d) When a sample does not comply with the Regulations, the inspector should state the corrective action taken on the original and first copies in accordance with the instructions on the reverse side of the form. This report should be forwarded to the inspector in charge for his comments and signature and then sent to the Assistant Director of the area. Be sure that the form sent to the Assistant Director is legible and shows the action taken for correction of the reported violation.

18.73 When a sample is sent to the Washington Meat Inspection Laboratory for special purpose, a notation must be made on the laboratory form to that effect, or the form should bear reference to a letter or correspondence. If no notation appears on the form to indicate special handling, the sample may be discarded or given the usual analysis for the class of product, especially if it arrives ahead of any correspondence on the subject.

18.74 Fiber cartons for forwarding samples are stocked at the following stations: Atlanta, Ga.; Chicago, Ill.; Kansas City, Kans.; New York, N.Y.; St. Louis, Mo.; San Francisco, Calif.; and Washington, D.C. The fiber cartons should be used exclusively for sending samples to the laboratory.

Where fewer than three samples are placed in the carton, the additional space should be filled with paper or other light waste material. Two addressed franks, one for forwarding samples to the proper laboratory from which they were forwarded, should be prepared by the inspector at the establishment. The franks should be placed on the carton in such a way that only the outgoing frank will be visible when the carton is tied and ready for mailing. In this way an adequate supply of sample containers and cartons should be available at the establishment whenever needed.

18.75

The following instructions apply to the control of canned pork products, cooked cured products and smoked pork products:

The inspector has the responsibility, as with all other products, to ascertain that smoked, cooked and canned hams and other cured pork items distributed from the establishment are in compliance with the regulations. In order to fulfill this responsibility the inspector must have sufficient knowledge of the establishment's production practices and control procedures to evaluate their effects on the finished product.

The establishment is expected to exercise control over all restricted ingredients and the curing, smoking and chilling practices to assure continued production of products in compliance with the regulations. The establishment is expected to adopt uniform procedures for pumping, curing, smoking and chilling each kind of product to prevent unusual product variation.

The inspector is required to know, by frequent direct observation of the measuring and weighing of restricted ingredients, the exact amount of these ingredients used in curing solutions. Information gained from establishment personnel alone is not sufficient. Samples of curing solutions collected at irregular intervals should be submitted for laboratory analysis. Any significant deviation in nitrite, phosphate, or ascorbate content between pickle made under direct supervision and that formulated without supervision would indicate a need for closer supervision by the establishment management and more restrictive control by the inspector.

In order to assure that restricted ingredients are not being used in excess of the quantity permitted by the regulations and that the pumping procedure is uniform, the inspector is required to conduct frequent daily calculations to determine the percentage of curing solution injected into each kind of product. In the event pumping procedures are inconsistent, more frequent product sampling will be required. Calculate the percentage pump after the free pickle has had an opportunity to drain from the product.

The inspector is required to have knowledge of the usual shrinkage of each kind of product during the smoking process. This information should be related to time, temperature and relative humidity. The usual percentage of shrinkage during various chilling periods for each kind of product must also be established by the inspector. In developing the information it is essential that the inspectors use their knowledge of packing-house procedures and variation in facilities.

A uniform chart will be used for recording usual establishment procedures. A completed chart for each kind of product produced at the establishment must be on file in the office of the inspector. Procedures reflected by the chart will indicate the pickle formulation, pumping percentage, usual smokehouse shrink and usual cooler shrink. A duplicate copy of the chart must be forwarded regularly to the office of the inspector in charge for his information. Results of laboratory analysis of samples of the kind of product produced by the procedure reflected by the chart must be recorded on the inspector's copy in the space provided at the bottom. The chart will provide daily opportunity for inspectors to evaluate the ability of a specific procedure to produce products in compliance with analytical requirements and to confer with establishment personnel on any procedural change required for added moisture adjustment. Any action taken by the inspector to reduce added substances content or to retain product pending laboratory analysis should be noted on the chart. In the event the establishment alters procedures by changing pickle formulation and/or pumping percentage and/or smokehouse or cooler shrinkage, a new chart must be made to reflect the change. Supervisory personnel should conduct weekly reviews of establishment procedures for curing, pumping, smoking and chilling to determine the accuracy of current charts for each product. Samples should be submitted more frequently than once a week, if necessary, because of lack of effective establishment control procedures over pickle formulation, curing, pumping, smoking and chilling practices.

Selection of Samples. The importance of collecting a random sample cannot be overemphasized. It must be done intelligently, always bearing in mind the time of sampling, location where selected, weight average of the product, and any other factor that could be anticipated. The inspector must maintain security of the sample from the time it is first selected until it is in custody of the Post Office Department.

To assure that samples submitted for analysis are representative of production, samples of the same class of smoked, cured or canned pork products will be collected several times during the day and/or night. These samples will be placed in a secure retaining cage and once during the day, the inspector will select the sample to be submitted for analysis from the samples previously collected. Those products not selected for the sample will be returned to the establishment and on days when no sample is selected, all product will be returned.

Sampling. Except as provided below, a minimum of one sample of each class of product will be submitted to the laboratory biweekly. For certain products, such as country-style smoked hams, Canadian-style bacon, water added smoked pork, water cooked hams, pork shoulder butts, and bacon where there is a history of the preparation of product well within the limit of the Regulations, less frequent sampling of these products is expected. Inspectors will sample products more frequently and the inspector in charge may authorize market sampling of product when such information is considered necessary to determine the acceptability of procedures used by the establishment.

Establishments receiving cured products for further processing will need to establish a history indicating acceptability of the processing procedures and inspectors will sample each lot of product until such information is developed. If cured products for further processing are received from several establishments, a history as outlined above must be developed for each curing establishment from which products are received.

Some establishments may wish to obtain a duplicate of the sample submitted by the inspector to the Meat Inspection Division Laboratory. This is permissible when a truly representative sample is provided. The following facilities and procedures will be used in the preparation of samples in this regard:

A power-driven grinder with C-12 chopper ends, plate with 1/8 inch openings, two pans large enough to permit boning of the product and mixing of the chopped material, and knives suitable for boning and trimming. If C-12 chopper ends are not available, a large chopper may be used provided it is dismantled and that portion of the product remaining in the barrel and screw is removed and included with the sample.

All operations must be conducted as quickly as possible to minimize moisture loss by **evaporation**. The product should not be placed on absorbent material or unnecessarily exposed to evaporation either before or after chopping. All liquid which escapes during boning, cutting or trimming must be reincorporated during the chopping and mixing operation. Failure to follow these instructions closely will result in the sample not being representative of the product.

Boning, cutting and trimming of the ham or other pork cut should be performed over a pan to prevent loss of liquid which escapes. The bone should be trimmed free of meat insofar as practicable and the trimmings and all fat from the individual piece should be included with the sample. All material except the bone and skin should be passed rapidly through the chopper twice and mixed thoroughly after each chopping. Approximately 1 pound of the ground, mixed meat should be placed immediately in an impervious plastic bag that must be tightly closed to prevent loss of moisture.

When a whole bone-in unit is submitted, any protruding bone should be removed and/or several layers of nonabsorbent material should be securely fixed over the area of the bone to prevent puncture of the sample bag.

A production unit is a whole ham or a pork shoulder picnic, etc. A laboratory sample may be the whole unit; a ground portion taken from a production unit and prepared as described; or a center slice one inch thick taken from a ham, pork shoulder picnic, or similar product. A sample of a cured canned product shall consist of one unopened can. A sample of sliced packaged product should consist of at least three one-pound packages, preferably taken from the same unit.

The mailing of samples to the laboratories should be accomplished so that the sample does not arrive at the laboratory on Saturday, Sunday, or holidays. Samples obtained toward the end of the week may be held under seal at the establishment pending proper mailing time. Extreme care should be exercised in preparing, packaging and mailing samples to the laboratory. When plastic sample containers are broken, torn or otherwise perforated, the sample is useless to the laboratory for analytical work.

No determination of nitrite will be made by the laboratories on chopped samples unless they are received in the laboratory the same day as collected, or are packed in a sufficient quantity of dry ice or similarly protected to prevent changes in nitrite content.

The laboratory will report percentages of added substances or added water without reference to compliance or lack of compliance of the product. Use of the following criteria recognizes differences resulting from analytical variance and practical sampling limitations and assures substantial compliance.

The following criteria are to be used in evaluating the analytical returns for added substance in smoked pork products, canned pork products and cooked cured products. For the present time, cooked cured products will be included in the general range of miscellaneous products.

A. Each single sample is expected to be within the upper limits identified in Table I-A for that product.

B. Single sample returns above that provided in paragraph "A" but within the limits identified in Table I-B indicate a need for immediate change in processing procedure and corrective action sufficient to bring future single samples within the expected range. This corrective action can be accomplished by altering the curing procedures, increasing smoking time or increasing processing temperature to effect necessary results.

C. For single sample results higher than those provided for in paragraph "B", all product of the type represented by the sample would be retained. Processing procedures must be altered to effect corrective action. No lot of product represented by this sample would be released until subsequent laboratory returns indicate the lot is in compliance.

D. In addition to the above action for single sample results, the average of the last five single sample results is expected to be within the limits outlined in Table II-A for that type of product. As long as the average of the last five results does not exceed this requirement and the return on any individual sample does not exceed that outlined in paragraph "A", the product may move freely.

E. If the average of the last five samples is more than that permitted in Table II-A, but within that allowed within Table II-B for that type of product and the establishment has a satisfactory history of compliance for that type of product, corrective action as in "B" above is indicated.

F. If the average of laboratory sample results is above that provided for in Table II-B, corrective action will be taken as outlined in paragraph "C" above. After sufficient samples have been taken to return the running average of the last five samples within the limits provided for in paragraph "D" for that type of product, then procedures can return to normal.

The rate of production should be fairly constant during the sampling pattern; that is, if production should increase materially, more samples should be taken in proportion to the increased production. The laboratory results of product prepared under one processing procedure must not be averaged with product prepared under a different procedure. In calculating the running average, the limit on negative results will be that defined in Table I-A for that type of product.

This section provides for differences resulting from analytical variance and practical sampling limitations only and should not be construed as a deviation from the requirements of the Meat Inspection Regulations.

When as a result of all information available including the analysis of samples the inspector determines that the processing procedures are not producing product in compliance with the regulations, the inspector will retain product for such additional processing as needed and require corrective measures in the processing until he is assured that the class of product as prepared for distribution is in compliance with the regulations. Any unproven change in processing procedure would be the basis for retention until sufficient returns are available indicating compliance.

Definitions. There are certain phrases and terms in connection with the control procedures which may need further clarification:

(1) "Products of the class" means a specific kind of product, for example, "Regular, Bone-in Smoked", "Regular Bone-in Shankless Smoked Ham", "Fully Cooked Regular Bone-in Smoked Ham", or "Fully Cooked Boneless Ham".

(2) "Product on hand represented by the sample" means that the kind of product produced by the same procedures as the sample regardless of weight range or date of production.

(3) "Brought into compliance" refers to reducing added substances to within the acceptable range as outlined in Interpretation of Analytical Results.

TABLE I-A RANGE FOR SINGLE SAMPLE RETURNS

Smoked Hams	<u>+5.8</u>
Smoked Picnics	<u>+4.5</u>
Canned Pork Products	<u>+4.0</u> (in addition to 8%)
Smoked Butts (and Misc. Products)	<u>+4.5</u>

TABLE I-B

Smoked Hams	+5.9 to 7.4
Smoked Picnics	4.6 to 5.8
Canned Pork Products	4.1 to 5.1 (in addition to 8%)
Smoked Butts (and Misc. Products)	4.6 to 5.8

TABLE II-A RANGE FOR AVERAGE OF RETURNS

Smoked Hams	<u>+2.6</u>
Smoked Picnics	<u>+2.0</u>
Canned Pork Products	<u>+1.8</u> (in addition to 8%)
Smoked Butts (and Misc. Products)	<u>+2.0</u>

TABLE II-B

Smoked Hams	2.7 to 3.3
Smoked Picnics	2.1 to 2.6
Canned Pork Products	1.9 to 2.3 (in addition to 8%)
Smoked Butts (and Misc. Products)	2.1 to 2.5

TABLE III PROTEIN MULTIPLIER

Smoked Hams	3.79
Smoked Picnics	4.00
Canned Pork Products	3.83
Smoked Butts	4.00
(and Misc. Products)	

An extensive study to determine proper statistical factors in this control procedure is continuing and as new information is available, it will tend to make our controls more accurate and revisions will be made

From time to time, inspectors should conduct yield tests at the establishment for different smoked and cured pork products to determine if the laboratory sampling controls outlined in this memorandum and other instructions are effective in requiring the production of proper product. However, the decision on corrective action to be taken against product will continue to be applied on the basis of laboratory returns and the results of a continuing average of results falling within approved range for these products as outlined. Information on yield tests that tend to indicate the controls are not sufficiently restrictive should be furnished the office of Procedures and Requirements for its evaluation.

An approved supplier is a manufacturer known to be operating under acceptable sanitary conditions and in a position to certify the formula and ingredients used in each shipment. The official establishment receiving the prepared article from an approved supplier must arrange for unqualified entry of our inspector into the facilities where the article is prepared. At the discretion of the inspector in charge, our inspector in the area where the nonmeat item is produced will make occasional reviews of the operations to check the formulation and assure sanitary handling of the component intended to be used in the manufacture of an inspected product.

18.83 Anticaking agents.—We currently accept salt, cures or seasonings containing up to 2 per cent singly or in combination of tri-calcium phosphate, tetrasodium pyrophosphate, calcium carbonate, magnesium carbonate, calcium stearate, silica gel, calcium aluminum silicate, calcium silicate, magnesium silicate, sodium alumino-silicate, sodium calcium alumino-silicate, sorbitol, glycerol (glycerin) or propylene glycol as anticaking agents.

The label of container of such preparation must bear a statement such as "Not more than 2 per cent tri-calcium phosphate present as an anticaking agent."

We also accept salt containing up to 13 p.p.m. of yellow prussiate of soda (sodium ferrocyanide decahydrate) as an anticaking agent. The label on the container may reflect its presence by a statement such as "Yellow Prussiate of Soda Added."

Our permission does not cover use of these agents as such in meat food products. When salt, seasoning or curing mixtures containing these are used in product, their presence need not be shown on the product label.

18.84

When commercial curing compounds containing nitrites are received, they may only be released for use in the official establishment if the manufacturer has indicated on the container that a sample of the lot from which this compound was derived was chemically analyzed and found to be acceptable and within the nitrite limitations on the label. In the absence of this kind of certification, the inspector will not permit the use of this particular lot until a sample has been taken and passed by the Meat Inspection Division Chemical Laboratory, or acceptable analysis has been furnished by the establishment laboratory or commercial laboratory.

This additional control does not change the traditional sampling applied by the inspector to assure acceptability of the curing compound. In order to fully exercise his responsibilities, the inspector must periodically submit to the Meat Inspection Division Laboratory samples of shipments of curing compounds even though certified as described above.

18.85 Thermometers designed to register high and low temperature ranges are available to meat inspection stations for checking the accuracy of the working thermometer used by the inspector.

The thermometers are of two types: (1) High—registers temperatures between 0 - 230 degrees F., (2) Low—registers temperatures between -30 - +120 degrees F. Each thermometer is identified with a number. The thermometer must be checked with the correction sheet available at the station. To provide an available reference to the user, the corrective factor should be transferred from the sheet to a tag attached to the thermometer. To arrive at an accurate reading, a plus or minus degree if shown necessary on the correction sheet must be added or subtracted from the reading on the thermometer.

The proper manner for testing the working thermometer with the standard check thermometer is as follows: High—place both the standard check thermometer and the working thermometer in a mixed water solution at the temperature range you desire to check. In the case of the low thermometer, place the standard check thermometer in the cooler or freezer along with the working thermometer and leave for a period of time necessary to determine recorded temperature on both thermometers.

actual use. If the material disintegrates, has an appreciable odor, transfers color to the product or results in any other objectionable condition, it is not acceptable even though the original material has been approved by the laboratory. In many cases this can only be determined by the inspector in the establishment.

Therefore, it is the responsibility of the inspector to make the final decision on the acceptability of material used in establishments under his supervision. If material that has been determined to be acceptable chemically proves to be unsatisfactory when used, the office of Chemical Evaluation and Control should be notified.

18.90 Standard weight sets are available at each large station. The Assistant Director's office will inform stations where the sets will be located and how they will be made available.

In providing these weight sets, it is not the intention of the Division to assume responsibility for checking the accuracy of all scales used in an establishment. This is and will remain the responsibility of the establishment and weights and measures officials having responsibility for certifying scales in that locality.

The inspector will use the test weights when he has reason to question or to check the adequacy of the establishment's scale testing program. This might involve checking old scales that quickly lose their accuracy to find out if the establishment is servicing the scales at frequent enough intervals. The program may include checking scales at intermittent intervals to insure the establishment's testing program is adequate. The check weights used by the establishment might be compared with our standard set. Particular attention should be given to the establishment's program for checking scales used in internal controls for regulatory requirements. This would include scales in spice rooms, formulating rooms, or scales used in determining gain during processing.

18.91 Smoke flavoring and imitation smoke flavoring.—Initial lots of any of the preparations already determined to be acceptable or others which may subsequently be accepted should be sampled for laboratory analysis when presented for use in the plant. The preparation should not be used until a favorable report is received. In order to assure these items are as represented, we require that these come into official establishments unmixed with seasoning or curing materials. The plant may mix these with seasonings or cures prior to use after the inspector is sure the smoke flavor is satisfactory. If your office receives from a manufacturer or supplier requests for information as to

how they may proceed to have a smoke flavoring cleared, you may refer them to this office.

It has also been decided to allow use of oil of cade to produce a simulated smoke flavor in certain products. It may be brought into the plant alone or in admixtures with acceptable seasoning materials and is subject to the same requirements as for imitation smoke flavor.

Smoke flavor or imitation smoke flavor should not be confused with some of those naturally smoked items which have been accepted by us in appropriate products in the past. These are smoked yeast, smoked cheese and smoked poultry which may be used as ingredients of certain meat products. There has been no change in respect to the use of these items.

Materials such as smoked salt, smoked soy flour, smoked nonfat dry milk, smoked seasonings, etc., prepared by direct exposure to wood smoke have not been approved. If proposed these and other preparations which have been subject to smoke will be evaluated under the same criteria as used to determine the safety of the smoke flavor and imitation smoke flavor accepted previously.

18.92 Seafood in official establishments.—The evisceration, scaling, cleaning or other similar preparation of seafood shall not be permitted in an official establishment unless the area in which such operations are conducted are completely separate from edible products departments. Such areas must be approved for this purpose and be equipped with suitable and adequate sanitary facilities.

When clean, sound, wholesome seafood is cooked, canned, frozen or otherwise processed in an edible department of an official establishment, the operation must be separate from any meat processing operation. As far as practicable, these operations should be conducted in separate areas and using separate equipment. However, when equipment is used to process both meat and seafood, such equipment and the area in which it is operated must be thoroughly cleaned before being used to prepare meat products. Batters, breading mixtures, curing solution and the like which contact seafood may not be used to prepare meat food products.

The sorting of clean, sound, wholesome seafood and the handling as outlined above may be permitted in an official establishment provided the operation does not create a nuisance or interfere with inspection by reason of strong odor or otherwise.

18.93

The Regulations state that either fresh beef, cured beef or canned corned beef or a mixture of two or more of these ingredients may be used in the preparation of corned beef hash. Therefore, there are different ways of preparing product meeting the standard. Since the formulas used in these calculations depend on the nature of the meat ingredients used, it is essential that the inspector note on the laboratory form the source of the meat component.

If the analysis of one sample of hash known to have been made primarily from the cooked meat shows between 33 per cent and 35 per cent meat or that known to have been prepared from fresh meat shows 47 to 50 per cent fresh meat, further samples should be taken to determine if the average will show 35 per cent or 50 per cent, respectively. Results on single sample of hash prepared from cooked meat showing less than 33 per cent cooked meat or one prepared from fresh meat showing less than 47 per cent fresh meat should be interpreted as representing product containing insufficient meat.

Although inspectional control is the principal basis for determining compliance with the Regulations, results of chemical analysis can be used to supplement this control. The results of analysis for fat and moisture are, of course, to be used as a basis for determining whether or not product is in compliance with respect to these components since limits on these are based on the finished product.

PART 20—REPORTS

20.1 MI—403 Ante-Mortem and Post-Mortem Inspection Summary.

(a) The original copy should be sent to the Meat Inspection Office Chicago, Illinois, and the duplicate should become the station copy.

(b) Swine, sheep, and goat livers which are condemned should be reported for each establishment in pounds on MI-Form 403 under code 7831. To assure a uniform basis of reporting, the determination of condemned livers in pounds should be developed as follows:

SWINE

It has been determined that 3 pounds per hog is the average liver yield, except that in cases where the slaughter is predominantly sows and boars the average liver yield per hog is 5 pounds. To arrive at the total pounds of livers condemned, multiply by 3 or 5 pounds (average yield) the number of animals slaughtered, and then subtract the total pounds of livers saved for food by the establishment. This will provide the number of pounds of livers and trimmings condemned to be reported on MI-Form 403, code 7831.

Example—2,000 (total hogs slaughtered) X 3=6,000 (potential yield)
6,000 — 5,400 (pounds packed by establishments) = 600
(pounds of condemned livers).

SHEEP AND GOAT

Average liver yield per animal is 1.5 pounds. The same procedure as for swine is used to arrive at the total pounds condemned.

In some cases the total pounds of livers saved by the establishment will not be available until the following day.

20.2 MI—404 Processing Operations at Official Establishments.

Form MI—404 is a three part snap-out form. It should be completed and the original and one copy submitted to the local meat inspection office as soon as possible, but not later than the Thursday following the close of each weekly reporting period. The third copy is for the files of the official establishment. This deadline must be met in order for us to release this information for publication in trade journals and official Government publications, approximately 10 days after the close of each weekly reporting period.

Form MI—404 is a weekly form which has a space under each item in the first group for you to report the number of pounds of product prepared or processed each day, Sunday through Saturday, and to report the weekly totals for each item. Of course, the weekly total of an item should equal the sum of the daily entries of the item. The items in the second group constitute a breakdown of the "Canned Product Item" in the first group.

The "Canned Product Item", No. 590, in the first group should include all canned product regardless of where and to whom it is to be sold, but the items in the second group should not include canned product

prepared for any government agency. The chopped meat (beef and pork) prepared and processed under CSS Contracts should be reported under items 781 and 782, "Breakdown of Canned Product," in addition to reporting it in the usual designated product food code of 590.

A new item is to be added to Form MI-404. It is the total poundage for the combined amount of dry and semidry sausage removed from the drying room during the week. This should be a weekly total only. The following should, therefore, be typed along the righthand margin of Form MI-404: "Dried; Semidried sausage removed—Pounds, Code 329."

In order to keep the reporting from establishments uniform, there is no space for "write in" items nor should a heading, printed on the form, be crossed out and the other items substituted as the code number for the printed item identifies that item on the IBM card. In the event that you have prepared or processed an item that is not listed on the form, you should consult the following table.

The items listed below should be reported under the following headings:

Meat and Meat Food Products (Not Canned)

In the columns "Placed in Cure," do not include chopped meat placed in cure for use at the same establishment in the preparation of sausage, luncheon meats, spiced ham, etc.

Beef. Report the green weight of all Beef Cuts and Beef Products
010 going to cure. This includes Beef Tripe, Beef Briskets, Beef Tongue, Beef Hams, etc.

Pork. Report the green weight of all pork items going to cure.
020 This includes Hams, Bellies, Picnics, Shoulders, Butts, Hocks, Plates, Feet, Tongues, Lips, Snouts, Fat Backs, Jowls, etc.

Other. Report the green weight of any lamb, mutton, or veal cuts or
030 products from these two species placed in cure.

Smoked and/or Dried Beef. Report the finished smoked or dried weight
110 of all beef cuts and beef products which have been smoked or dried. This includes beef tongues, beef hams, etc.

Smoked and/or Dried Pork. Report the finished smoked or dried weight
120 of all pork items which are smoked or dried. This includes hams, ready-to-eat hams (excluding hams for canning), shoulders, picnics, bacon, butts, loins, coppa, capicola, Italian style ham, knuckles, hocks, spareribs, jowls, etc.

Do not include in the "Cooked Meats" columns meat cooked as a part of the preparation of canned products, sausage, or similar products.

Cooked Beef. Report the cooked weight of cooked beef tongues, cooked
 210 corned beef, etc.

Cooked Pork. Report the cooked weight of any pigs feet, pork tongues,
 220 hams, picnics, loin rolls, etc.

Other Cooked Meats. Report cooked weight of any lamb, mutton, and
 230 veal that is cooked or scalded.

Sausage, Fresh Finished. Lamb chopped, veal chopped, breakfast
 310 sausage, and pork sausage.

Sausage To Be Dried or Semidried. Report the weight going into the
 320 drying room, of salami, cervelat, pepperoni, all forms of
 summer sausage, cotto salami, smoked thuringer, and pork roll
 (chopped meat), and any other types of dried or semidried
 sausage products.

Smoked and/or Cooked—Franks and Wieners. Report the finished
 330 weight of all frankfurters and wieners.

Sausage Smoked or Cooked—Other. Report the finished weight of
 340 bologna, liver sausage, smoked pork sausage, polish sausage,
 luncheon meat in casings or bags, garlic sausage, New England
 brand sausage, minced, roll, blood and tongue sausage, and all
 other smoked or cooked sausage not included in Code Nos. 330
 or 410. Cooked ham, butts, or picnics are not to be included
 under any of the sausage classifications.

Loaf, Head Cheese, Chili Con Carne, Jellied Products, Etc. Souse,
 410 sulze, scrapple, liver pudding, blood pudding, chop suey,
 imitation sausage, imitation chicken, tamales (not canned),
 and turnovers.

Steaks, Chops, and Roasts. Report the actual production of packed
 420 and to be packed fresh cuts, cube steaks, sandwich steaks,
 minute beef steaks, pork chops, packed fresh cuts, fabricated
 meat, steaks, chops, roasts and stew meat, and all other
 processed packed cuts, fresh or frozen. This item should reflect
 operations in hotel and restaurant supply departments wherein
 pork chops, lamb chops, veal chops, pork steaks, ham steaks,
 beef steaks, and all kinds of roasts are prepared. This item
 should also include cube steaks, sandwich steaks, and other
 similar items prepared in individual serving style, as well as
 chunk meats for stews, and liver which has been sliced for
 serving. It should also include beef that is prepared for the
 Army in the 3- or 4-way style. Do not include organs or by-
 products requiring no further processing or primal bone-in or
 boneless cuts which individually bear the marks of Federal
 inspection, such as ribs, loins, hams, picnics.

	Region	Area	Station	State
Fremont, Mich-----	3	3	184	21
Green Bay, Wis-----	3	3	198	48
Harrisburg, Pa-----	1	1	210	37
Hialeah, Fla-----	2	2	216	09
Houston, Tex-----	6	2	220	42
Indianapolis, Ind-----	3	3	230	13
Jackson, Miss-----	6	2	233	23
Kansas City, Kans-----	5	2	242	15
Kinston, N. C-----	2	2	248	32
Knoxville, Tenn-----	6	2	252	41
Los Angeles, Calif-----	8	4	270	04
Louisville, Ky-----	6	1	274	16
Lubbock, Tex-----	6	2	276	42
Madison, Wis-----	3	3	284	48
Mason City, Iowa-----	4	3	292	14
Memphis, Tenn-----	6	2	300	41
Miami, Fla-----	2	2	308	09
Milwaukee, Wis-----	3	3	314	48
Mobile, Ala-----	6	2	318	01
Montgomery, Ala-----	6	2	322	01
Moultrie, Ga-----	2	2	324	10
Nampa, Idaho-----	7	4	332	11
Nashville, Tenn-----	6	2	336	41
Newark, N. J-----	1	1	340	29
New Haven, Conn-----	1	1	346	06
New Orleans, La-----	6	2	400	17
New York, N. Y-----	1	1	406	31
Norfolk, Va-----	2	1	410	45
Ocala, Fla-----	2	2	420	09
Oklahoma City, Okla-----	6	2	424	35
Omaha, Nebr-----	4	3	428	26
Orangeburg, S. C-----	2	2	432	39
Ottumwa, Iowa-----	4	3	434	14
Peoria, Ill-----	3	3	438	12
Philadelphia, Pa-----	1	1	446	37
Phoenix, Ariz-----	7	4	448	02
Pittsburg, Kans-----	5	2	456	15
Pittsburgh, Pa-----	1	1	458	37
Portland, Maine-----	1	1	470	18
Portland, Oreg-----	8	4	472	36
Richmond, Va-----	2	1	494	45

	Region	Area	Station	State
Rochester, N. Y-----	1	1	502	31
Roswell, N. Mex-----	7	4	508	30
St. Louis, Mo-----	5	2	512	24
Salem, Va-----	2	1	518	45
Salt Lake City, Utah-----	7	4	524	43
San Antonio, Tex-----	6	2	528	42
San Diego, Calif-----	8	4	532	04
San Francisco, Calif-----	8	4	536	04
Scranton, Pa-----	1	1	544	37
Seattle, Wash-----	8	4	548	46
Shreveport, La-----	6	2	550	17
Sioux City, Iowa-----	4	3	552	14
Sioux Falls, S. Dak-----	4	3	554	40
So. St. Joseph, Mo-----	5	2	560	24
So. St. Paul, Minn-----	4	3	562	22
Spokane, Wash-----	8	4	566	46
Springfield, Mass-----	1	1	568	20
Union City, Tenn-----	6	2	584	41
Washington, D. C-----	2	1	596	08
Waterloo, Iowa-----	4	3	600	14
Wichita, Kans-----	5	2	616	15
Wilson, N. C-----	2	2	620	32
Worcester, Mass-----	1	1	628	20
San Juan, P. R-----	9	2	997	97
Honolulu, Hawaii-----	9	4	999	99
Tamuning, Guam-----	9	4	887	87

20.3 MI-407 Meat and Meat Food Products Condemned on Reinspection and Destroyed.

Only one class of product and one cause can be reported on each MI-407. Use only the classes of product and causes of condemnation printed on the form. When meat food product fabricated from more than one class of meat or meat byproduct is condemned, for purposes of reporting on this form the predominant meat or meat byproduct component of the condemned product shall determine the class. When there is no rejection at the station during the calendar month a report should be submitted with statement, "There were no meat or meat food products condemned on reinspection and destroyed at this station during the month of _____. " Product such as fat and bones intentionally diverted by an official establishment to inedible channels, even when such product is decharacterized, should not be reported on this form. A copy of this form may be furnished the establishment on request. The inspector must not under any circumstances identify the rejections on form M.I. 407 with any particular shipment or product received at the establishment. He is not in a position to maintain identity of incoming shipments to the extent that he can certify that the contamination was present at the time it was received nor is he in a position to certify to the amount of trimming necessary to bring the product into compliance. Therefore, he may issue

the condemnation form at the request of the packer, but it would merely state that on any particular date a certain amount of product was condemned. The inspector should not allow the packer to use M.I. 407 as a means of obtaining repayment or adjustment from the shipper.

20.4 MI-407-4 Materials Rejected for Use.

One form should be prepared, in duplicate, for each material rejected, and the original of the completed form should be sent to the Meat Inspection Office, Chicago, Ill., along with other MI reports. The duplicate copy is for the station files. When there is no rejection at the station during a calendar month, a report should be completed with the notation, "There were no materials rejected at this station during the month of _____."

The left side of the report is for coding. One code number in each group is to be circled. In the spaces, on the right, the inspector is to write in detail the description of the material rejected, the cause, the disposition and the official agency notified. The quantity rejected should always be reported in pounds, if possible.

To assist you in determining under what categories items should be placed on the form, we have prepared the following lists:

GROUPINGS FOR CLASSES OF MATERIALS REJECTED

1. Spices and Seasonings:

salt	onion powder	mustard
sugar	ground spice	seasonings
pepper (black, red, white)	anise	sausage
monosodium glutamate	smoke flavoring	bologna
paprika	cinnamon	loaf
garlic	coriander	ham spices
oregano	nutmeg	saucers
chili mix/powder	allspice	hot
bar-b-q powder	sage	pizza
mace	dextrose	honey
thyme	seeds	syrup
	dill	vinegar
	caraway	
	fennel	

2. Flour and Cereal Products:

wheat flour	farina	macaroni
corn flour	cereal binder	spaghetti
soya flour	wheat cereal	noodles
barley	potato starch	tapioca flour
potato	bread	
rolled oats	batter mix	
barley	cracker meal	
rice	corn meal	

3. Dairy and Egg Products:

nonfat dry milk	sodium caseinate
whole milk	eggs, whole, fresh
whole skim milk	egg white, fresh, frozen,
dry whole milk	powdered
whey	egg yolks, fresh, frozen,
breeding mix dip	powdered
process cheese spread	

4. Fruits or Vegetables (Fresh, Canned, or Dehydrated):

potatoes	pimientos	pickles
peas	tomatoes, fresh	olives
carrots	paste	beans
parsley	puree	bean sprouts
onion	juice	

5. Soaps, Cleaners, Oils:

tripe cleaner	brick cleaner	mineral oil
toilet cleaner, etc.	boiler compounds	cotton seed oil
floor cleaner	metal cleaner	paraffin
oakite	clothes cleaners	
general cleaner	hand soaps	

6. Equipment:

lard drums	paper	jars
ink	plastic products	bottles
cartons	string	cans
cording	rope	covers (lids)

7. Casings (Natural and Artificial):

casings
plastic overwraps
visking bags

8. Curing Agents:

pickle	westphalia powder	sal brine
cures	prague powder	

20.5 MI-412 Application for Export Certificate and/or Stamps.

In Section A, No. 4, the exporter is to check whether a certificate and stamps are requested or stamps only. In No. 5, only one block should be checked since only one type of certificate and/or stamps can be requested on one form. We believe that there is sufficient space for the exporter to list all the products he wishes to export under one certificate in Section A, of No. 10 A and B. However, if it should happen that more than one MI-412 is needed to list all the items to be exported under one certificate, then in Section B, No. 6, check the block "Yes but this is an additional report," otherwise, check one of the other two blocks. All the items reported in 10 A and B of Section A have to be reported in one or more of the blocks in Part 7 "Product Codes and Pounds exported," of Section B.

20.6 MI-416 Product Examined for Specification Compliance and/or Condition.

It will be necessary to use a separate form for each government agency. However, it is not necessary to prepare separate reports for products passed and products rejected as they can be reported on the same form. Also, meat and meat food products and miscellaneous products can be reported on the same form.

Products offered for the School Lunch Program that is accepted should be reported in the usual manner on MI Form 416-4, "Specification Examination Certificate." However, product for the School Lunch Program which is finally rejected should only be reported on MI Form 416. On the September 1959 issue of the MI Form 416 no agency should be circled under the agency code and "School Lunch Program, Code 7" should be entered in the remarks blank.

At Navy stations where products are examined for specification compliance and/or condition at destination, one MI-416 should be submitted each month and the following items completed: Station, Date, and all items from the month code on. The number circled under the month code should be for the month during which the examination was made, not the month when the form was prepared. The amount of each type of product should be reported and if there is nothing to report for a type, write in "None."

20.7 MI-418-1, Report of MI Personnel by Grade. The form should be prepared in triplicate by each station, including Meat Inspection Laboratories and the Meat Hygiene Training Center, the original to be forwarded to the Meat Inspection Division, Reports, Washington, D. C. 20250, one copy to the appropriate Assistant Director, and one copy for the station file.

Personnel ceilings have been established which limit the number of employees the Meat Inspection Division is permitted. The Division cannot exceed the personnel ceilings in either of two categories - (Full Time Permanent Personnel), or (Other Personnel), and it will be necessary to make full use of all personnel allotted in order to carry on the workload and goals; therefore, it is essential that an accurate report of MI personnel (MI 418-1 Revised) by grade be submitted on a bi-weekly basis.

Form MI 418-1 has been revised and a new set of instructions developed to reflect the present needs of the Division in personnel accountability. This replaces previous forms and instructions. If you are in doubt as to the proper category to be used in reporting an employee, advise this office and necessary instructions will be issued to reflect changes in personnel reporting accountability.

In order to complete this form, each person preparing the report must have a very accurate knowledge of the personnel within his reporting station, identifying "Full Time Permanent Personnel" and "Other Personnel."

The following general rules will apply in completing this bi-weekly report:

- (1) Each employee who is in pay status, or on the employment rolls during the bi-weekly period, should be shown and included in the personnel count. As an example; if an employee should work on Monday at the beginning of the pay period and be separated for any reason on the first Tuesday, he should be shown in the count under the grade he was filling on Monday.
- (2) If an employee transfers from your reporting area during the pay period, you would not include him in the personnel count. As an example; if John Doe transfers to another station, and the effective date falls on the second Monday of the pay period, you would not include him in your count. The station to which the employee transfers will include him in its count.
- (3) The effective date of the Personnel Action Form will be the determining factor in the personnel count when reporting transfers, separations, appointments, promotions, and so forth. If there is any change in the personnel count, there should be an explanation of the change shown in Item 33, "Personnel Changes."
- (4) The Assistant Directors, their secretaries, as well as the Program Management Officers, are carried on the report for the Washington Office and should not be included on the MI 418-1 prepared at the stations.

Explanations for properly completing each item on MI 418-1 are as follows:

Item 1. Show pay period represented by date.

Item 2. Give station or laboratory (Include code numbers).

Items 3, 4, 7, and 8. Insert number of positions by proper grade and category as it is authorized by the approved station assignment list. Explanation of categories:

Supervisory: This grouping designates the personnel whose primary assignment is to supervise the work of Meat Inspection personnel and not one which requires the filling of a Meat Inspection position in an official establishment. This group consists of: Veterinarians in Charge; Inspectors in Charge; Assistant Inspectors in Charge; and Circuit Supervisors. Investigators in Charge and the Investigators under their supervision will also use this space.

Office Personnel: Includes all Administrative Assistants and Clerical Personnel.

Relief Inspectors: Includes Veterinarians and Meat Inspectors assigned to station relief. Veterinary Student Trainees will be reported under the blank space provided in the VMI space.

Establishment Personnel. (Note: to the right of "Relief Inspectors") All other station personnel, including specification specialists, import, and identification inspectors will be reported in the remaining spaces. Show GS-7a and 7c assignments under Slaughter 7, and GS-7b assignments under Processing 7. Investigators should use Items 3 and 5.

Items 5, 6, 9, and 10. Insert number of actual personnel by grade and category. This includes all personnel in pay status during the pay period involved. Definition of Full Time Permanent Personnel and Other Personnel is as follows:

Full Time Permanent Personnel: Includes all employees who are on full time appointments, and who work the regularly scheduled tour of duty of 40 hours per week. TAPER appointments would also be included in this category. NOTE: Any type of appointment mentioned below would not be included in this category.

Other Personnel: Covers all employment not included in the above. As examples, the following would prevail in this category.

- (1) Part Time Employees: These employees would have a prearranged tour of duty of less than 40 hours per week.
- (2) Intermittent (WAE) Employees: These employees are on an irregular or occasional basis whose hours or days of work are not based on a prearranged schedule tour of duty. They are compensated only for the time actually employed or for services actually rendered.
- (3) All Letter of Authorization Employees.
- (4) Temporary Appointments: Employees that have a Temporary Appointment with a limited or restricted period of employment, and who work the regularly scheduled 40 hours per week (ie, 700 hours or NTE 6 mos., etc.). However, TAPER appointment would not be included in this category.

- (5) Student Veterinary Trainees: Employees working for the Meat Inspection Division during the summer following their Junior year of college, and who return to college to receive their Doctor of Veterinary Medicine degree.
- (6) All Summer Employees that will be returning to school.
- (7) Veterinarians who are doing graduate work at colleges as employees of the Meat Inspection Division and whose salary is partially paid by the college, would also be included in this category.

When reporting the personnel in these two categories, please report what the Personnel Action Form indicates, and not the position or job the person is filling.

- Items 11, and 12. To be completed by the Laboratories only. Indicate number of approved positions by category as on assignment lists.
- Items 13, and 14. To be completed by the Laboratories only. Insert number of actual personnel by grade and category. This will include all personnel in pay status during the pay period involved. For definition of Full Time Permanent Personnel and Other Personnel, see Items 5, 6, 9, and 10 of this memorandum.
- Items 15, 16, 17, 18, 19, 20, 21, and 22. List Leave Hours by type taken at the station and/or laboratory for each pay period involved.
- Items 23, 24, and 25. List total of Non-Reimbursable Hours worked at this station and/or laboratory for each pay period involved.
- Item 26. Total Items 3 and 7. (Not to be completed by Laboratories)
- Item 27. Total Items 4 and 8. " " " " " "
- Item 28. Total Items 5 and 9. " " " " " "
- Item 29. Total Items 6 and 10. " " " " " "
- Item 30. List every WAE employee individually by grade and number of hours worked for each pay period involved. If a WAE employee does not work, then report his grade and under hours, indicate NONE. L/A employees would not be included in Item 30.
- Item 31. For Laboratories only. Complete as indicated in 31 A, B, and C, for each WAGE BOARD employee working the pay period involved. When first employed, list in Item 33 A, C, D, E, F, and give hourly rate under 33 G.
- Item 32. Report L/A employees individually as indicated in Item 32 A, B, C, D, E, F, for each pay period involved. When an L/A employee is appointed or terminated, indicate on the reverse of MI 418-1, by furnishing name, grade, authorization number, type of appointment, appointment or termination date. By type of appointment (Item 32 C), please indicate if the L/A employee is hired for Full Time; Part Time; or Intermittent (WAE) duty.

Item 33. List all personnel changes which occurred during the pay period. Generally this will mean details, transfers, appointments, resignations, retirements, deaths, military furloughs, promotions, extended sick leave, and LWOP (Per Personnel Action Form).

Record Veterinary Student Trainees upon appointment to the station and indicate when they return to school.

Laboratories should report detailed meat inspectors in this space.

Include all pertinent information in Item 33 A, B, C, D, E, F, and G.

Item 34 D. Designate station personnel changes, if any, resulting from Item 34 C, that would be reflected in a revised assignment list.

If no personnel changes take place, then indicate NONE.

Item 34, E, F, and G. This is for listing pending establishments.

Subsequent to this date, report only once, indicating type of establishment and estimation of changed personnel needs at the time you receive the approved blueprints of the proposed new establishment.

In 34 E, use; S-Slaughter, P-Processing, or SP-combined operations.

The Inspector in Charge will estimate the personnel needs for this pending establishment under Item 34 F, and G. Use zero (o) if you will not require additional personnel.

Item 35. Show number and grade by establishment for all vacancies that exist in the approved assignment list positions. As a guideline in reporting vacancies, the Inspector in Charge will report assignment list positions in establishments which logically are not filled when a shortage of personnel exists. It is expected by this office that sometimes this will not be the exact position vacant during a particular period of time.

Item 36. To be signed by the Official in Charge.

Item 37. Date signed - Mail so as to be postmarked by close of business the day following end of pay period. We realize local situations may require a delay in mailing, but due to the essential nature of this report, we trust delays will be at a minimum.

20.8 MI 420-2 Affidavit.

All papers in connection with an alleged violation should be in quadruplicate. This means Form MI-419, affidavits, shipper's certificates, invoices, canceled checks, billing records, bills of lading, waybills, transportation slips, and the like. Some of these will be copies of the original papers. The one making the copy should indicate thereon that it is a true copy, sign his name and give the date. He should also indicate where the original of the document is on file. The papers in connection with an alleged violation should be arranged into four complete sets. This means that each set will have one of every paper constituting the supporting evidence.

An affidavit in original and three copies should be procured from anyone having knowledge of an alleged violation. Affidavits should be sworn to before an employee of the Department designated under the Act of January 31, 1925, and not before a notary public. They can also be sworn to before a clerk or deputy clerk of a United States Court (see section of Administrative Regulations cited above).

If the investigator is unable to secure an affidavit from anyone having knowledge of the alleged violation, there is the possibility that the party concerned might give a written statement, in which case, the statement, in original and three copies, should be submitted in lieu of an affidavit. There may be times when an investigator is unable to obtain either an affidavit or a written statement from one having knowledge of the alleged violation, although this one may make a verbal statement or statements to the investigator. In such an instance the inclusion in the investigator's report of information of this kind proves helpful at times. If the oral statement is heard by more than one person, those hearing it should include in their affidavits or written statements their version of what was said.

An affidavit or written statement secured from the alleged violator, and in which he admits the violation, might not in all cases be admissible evidence unless there is also submitted other evidence of a corroborative nature. This is understandable when it is realized that in a case of this kind an affiant might refuse to testify in court. On the other hand, if the violator is a corporation, then an affidavit or written statement from an employee of the corporation is admissible evidence.

It is realized that under certain circumstances it might be difficult to make four copies of an affidavit or signed statement while on an investigative trip in the field. It is permissible to prepare and have sworn to the original only of the affidavit, or to prepare and have signed the original only of the written statement submitted in lieu of affidavit. The three additional copies may be made upon return to the office.

An employee investigating an alleged violation should procure, if obtainable, information as to whether the alleged violator has a "past history" or that he knowingly violated the Act, or that he had in any way indicated that he attempted to escape apprehension by conveying the meat or making deliveries of it at an unusual hour, or that he had been in the meat business a sufficient time to acquire knowledge of the applicability of the Meat Inspection Act, and so forth. Information secured along the foregoing lines but not in the form of admissible evidence should be included in the investigator's report, as it might be helpful to those preparing and prosecuting the case. The investigator would also be able to furnish such information to the grand jury if called upon to do so.

The reason for securing affidavits or written statements from those having knowledge of an alleged violation is to furnish the General Counsel's office, the Department of Justice, and the United States Attorney (papers in connection with the case follow these channels) information as to the character of the testimony that may be expected from the various ones who will be called as witnesses. It is important that the first paragraph of such documents follow the first paragraph of the sample affidavit, so that those having to do with the handling of the case are apprised of the address and status of the affiant.

It is, of course, necessary to fix the approximate date of the interstate transportation, give the approximate amount and kind of meat and meat food products involved, procure indisputable evidence that an interstate transportation occurred, establish the fact that the meat

20.10 A new form, MI Form 437, "Notice of Receipt of Unclean or Unsound Product," is available and should be used when federally inspected product is received at an official establishment and the condition of the product upon arrival reflects unfavorably on the proper preparation or the transportation of the product from the originating establishment. A completed original and duplicate of the form should be mailed to the inspector in charge responsible for the original inspection. He will forward the duplicate to the establishment inspector.

The purpose of this form is to furnish the inspector in charge at the originating establishment with information to assist him in requiring correction of establishment procedures. Therefore, it is essential that the information on contamination and its probable cause be as complete as possible - Was it caused by metal particles eroded from metal hooks? Were the quarters wrapped or covered? Was it dressing floor contamination? What type? This information is essential if the form is to serve a useful purpose to the receiving inspector.

The form is intended for internal use of the Division and is not to be issued to the establishment.

20.11 MI Form 441 has been developed to provide for the identification of labels that are transferred between stations in accordance with Section 17.13 of the Meat Inspection Regulations. The instructions printed thereon cover its usage and distribution.

PART 21—APPEALS

21.1 When an inspector's decision is questioned, the inspector in charge makes a report to the Washington office.

PART 22—COOPERATION WITH LOCAL AUTHORITIES

22.1 Information furnished by meat inspection stations when diseased conditions are found among animals at slaughtering establishments, and giving point of origin, has been of great value in assisting Federal and State officials in controlling communicable diseases of livestock. This has been especially true with such diseases as tuberculosis, hog cholera, swine erysipelas, anthrax, vesicular diseases, cysticercosis, and various parasitic infestations.

All cases of such diseases as anthrax, blue tongue, cysticercosis in swine, hog cholera, scabies, scrapie, tuberculosis in cattle and the vesicular diseases should be reported. In cases where lots of animals are affected with such diseases as contagious ecthyma, cysticercosis in cattle, foot rot, mucosal complex, swine erysipelas and tuberculosis in swine, they should be reported. All information regarding the identity of the animal and its origin should be furnished. In case of scrapie or scabies the ADE inspector would like to see the animal. Because of the importance of this phase of our work, the inspector in charge should give it his close attention and see that the necessary reports are forwarded.

Owners and operators of official establishments will recognize that aid given in the identification of lots of diseased animals will serve to further reduce the incidence of the disease among the livestock population in the areas served by such establishments, a reduction which will shortly be reflected in a direct return to both the producer and the packer through the avoidance of loss by condemnation of diseased animals or their carcasses.

22.2 The reports made by inspectors will be on Form ADE-2-11C except those reporting tuberculosis. The original should be forwarded to the Division at Washington, one copy to the Veterinarian in Charge of the State of origin of the animals covered by the report, and a copy to the appropriate State livestock sanitary official of the State of origin. The form forwarded to the Division should be noted to show that the required distribution has been made of other copies of the report.

22.3 Form ADE-6-35 "non-reactors showing tuberculosis lesions" should be used by veterinary meat inspectors for reporting lesions of tuberculosis found during slaughter of all non-reacting bovine animals and whenever extensive tuberculosis infection in lots of swine is encountered. All animals found to have tuberculosis lesions as well as those which show lesions suspicious of tuberculosis should be reported even though all of the information about the origin of the animal cannot be obtained.

Each form completed should be identified in the upper right-hand corner by the establishment number where the animal was slaughtered and a case number starting with number 1 on July 1 of each year and running consecutively at each establishment. The form should be distributed in accordance with instructions appearing on it. Inspectors should furnish all information available about the identity of the animal in the space provided on the form.

22.4 (a) In some instances, the identity of cattle is established at the slaughtering plant through the medium of eartags, stockyard sales tags, and similar identifying devices. In many instances, cattle from Western States can be identified more positively by means of hide brands. These brands are registered with the livestock authorities of the States and are identified as the cattle move through the sales barns, stockyards, and the like. Whenever possible, these brand identifications are to be shown along with eartag numbers and other identifying features on Forms ADE-2-11C and ADE-6-35 reports. Brand inspectors are located at many livestock centers. It is suggested that they be asked to assist in the brand identification of diseased animals.

(b) The origin of animals that show tuberculosis lesions may be determined by the identifying tags on the animals when they are slaughtered. Inspectors should remove such identifying devices and hold them for at least 60 days following the date of the report to the Animal Disease Eradication Division on Form ADE-6-35. This gives the field veterinarian an opportunity to obtain the identifying tag if this becomes necessary.

All information on both sides of the eartag or similar identifying device should be shown on Form ADE-6-35. It would also be helpful to show the composition or other description of the tag.

- (c) A three-section identification tag has been successfully used to identify the origin of cattle when tuberculosis is detected on regular kill. This method is particularly useful when the removal of the hide is done sometime before evisceration.

The three-section tag is used in place of the two-part carcass identification tag currently used in most establishments. The three-section tag may be placed with pins on the right ear. One tag is then removed and pinned to the head and the second tag is torn from the attached tag and placed on the carcass. An alternate method is to identify the hide by applying a tag to it by the use of back tag cement instead of fastening the tag to the right ear by means of a metal deadlock fastener. This method eliminates the danger of the metal fastener interfering with hide processing. ADE will furnish the back-tag cement.

22.5 The bovine tuberculosis eradication campaign has been so successful that the incidence of this disease throughout the entire country has been reduced to negligible proportions. In order to carry through with effective followup control measures, it is necessary to make use of a system that will locate the remaining few centers of infection. When these are located, disease control officials can concentrate their efforts in the areas where correction is needed. This effects a maximum of results with a minimum expenditure of time and money. The key point in this system is at the slaughtering plant where animals affected with tuberculosis can be identified and thus lead the investigators to the infected premises.

22.6 Each veterinarian should carefully study ARS-22-27, Special Report, "Mucosal Disease Complex" furnished him by ARS. Veterinarians and meat inspectors who perform ante-mortem and post-mortem inspection duties should be completely familiar with the symptoms of the disease conditions in this complex. This can be best accomplished through discussions by those concerned.

If any of the conditions of mucosal disease complex are observed, an immediate collect telephone report should be made to the veterinarian in charge, ADE Division, of the State where the animal originated. If the origin cannot be determined, then the veterinarian in charge of the State where the animal is being slaughtered should be notified. The telephone report should be confirmed by a report in writing on Form ADE-2-11C with a copy to the State Livestock Sanitary Official and a copy to the Meat Inspection Division.

All cases of hog cholera-like symptoms or lesions in swine diagnosed by Meat Inspection personnel shall be promptly reported by collect telephone, to the Animal Disease Eradication Division Veterinarian in Charge in the State in which such case or cases are diagnosed. The telephone report should convey as much explicit information as is possible to enable the Animal Disease Eradication Division to carry out all investigative procedures necessary in locating the source of infection.

Time expended in the assembling of trace-back information and in the transmission of the report should be billed against the Animal Disease Eradication Division on form BFD-96-1. The service should be identified as "Hog Cholera Detection" on BFD-96-1. Basically these billing instructions are the same as those outlined in Paragraph 11.7(e) of the Manual of Meat Inspection Procedures.

The Animal Disease Eradication Division is extremely anxious to have meat inspection veterinarians report to them immediately any unusual conditions suggestive of a communicable animal disease whether found on ante-mortem or post-mortem inspection. Where such a condition is found, a collect telegram should be sent to the veterinarian in charge of the Animal Disease Eradication Division activities in the State where the animal originated.

The Animal Disease Eradication Division furnished information pertaining to the Market Cattle Testing Program which was distributed to each station. Meat Inspection personnel should endeavor to support this program in every way possible in order to effectively assist the ADE Division in this area. Additional material or information on this subject can be secured from the Washington office or the ADE veterinarian in charge of the State.

22.7 (a) Food articles are examined for various Federal agencies to insure delivery of only such articles as conform to specifications under which they are purchased. This service is performed at the request of these agencies. Examination of food articles for specification or contract compliance, for condition, or for both may be made on request of the contractor or the Federal agency provided the inspector is furnished a copy of the contract, letter of award, or other information clearly indicating the specifications under which the article is purchased. The following list shows many of the agencies using our service:

Department of Agriculture:

Fruit and Vegetable Division, AMS.

Meat Grading Branch, Livestock Division, AMS.

Department of Army:

Corps of Engineers, U. S. Army (Rivers and Harbors).

Department of Health, Education, and Welfare:

U. S. Public Health Service.

Department of Interior:

Fish and Wildlife Service.

Department of Justice:

Bureau of Prisons.

Department of Navy:

U. S. Navy.

U. S. Naval Academy.

Department of the Treasury:

U. S. Coast Guard.

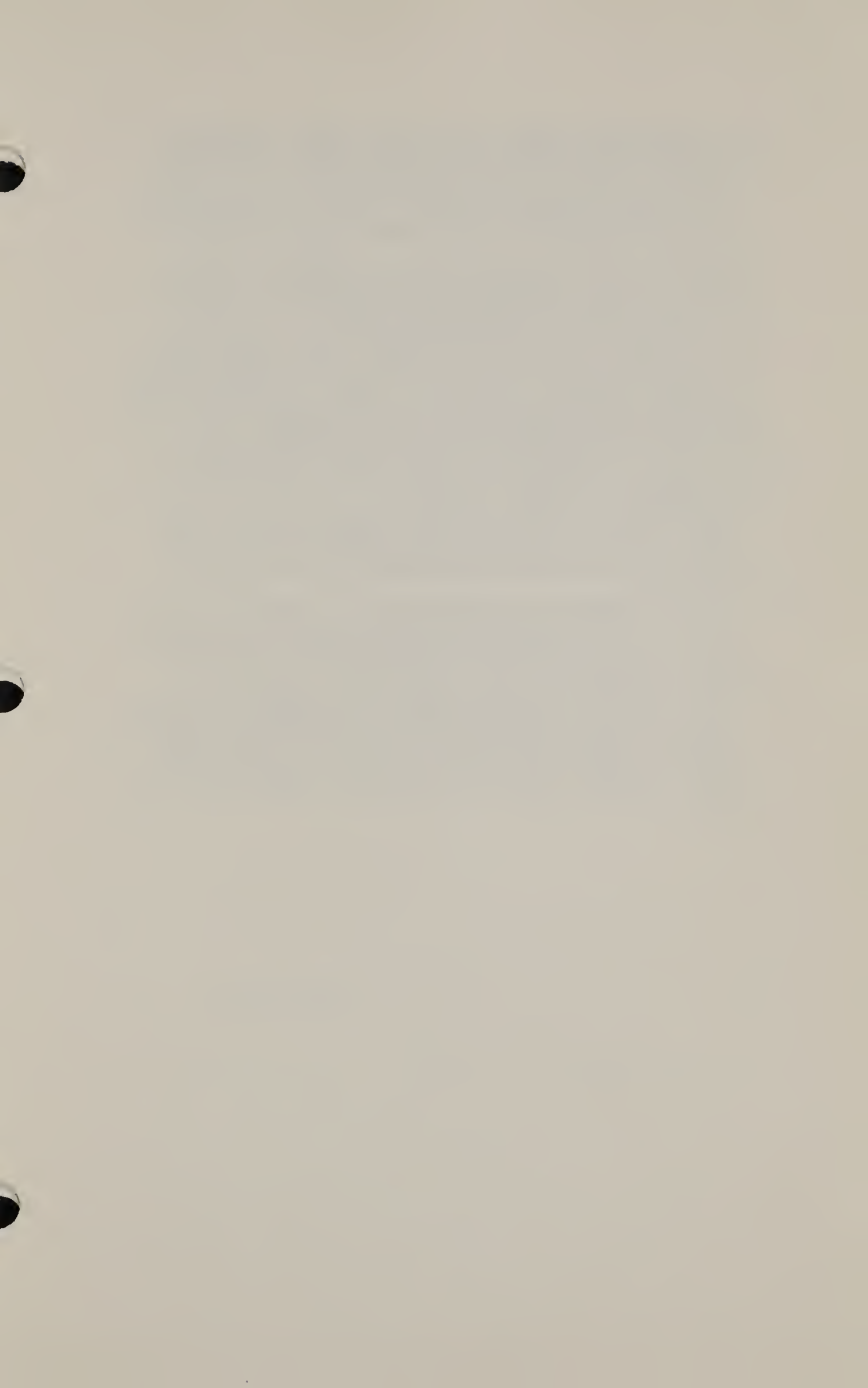
Independent:

Veterans Administration.

General Services Administration.

(b) The Veterans Administration and Public Health Service have specifications of their own; other Government agencies usually purchase food articles under the Federal specifications.

- 22.20(a) Inspection of Food Suppliers for Interstate Carriers by U. S. Public Health Service. The interstate quarantine regulations of the U. S. Public Health Service provide for inspection of food sources supplying interstate carriers. Occasionally, this inspection will involve the review of establishments operating under Federal meat inspection. Inspectors will co-operate in any such survey at the request of the Public Health Service. If deficiencies are noted during this survey which come within your jurisdiction and responsibility, you should take prompt action to correct these deficiencies through the use of your authority over facilities, procedures and product in the official establishment.
- (b) You should not join with the inspection agency, however, in any critical report which might indicate the establishment is operating improperly. If conditions are found needing correction of a kind over which you have responsibility, appropriate action should be taken. Continued violation of our regulations could be cause for a recommendation from you for the withdrawal of inspection. This would be expected only if you have exhausted your ability to obtain corrective action.



- (b) A good adhesive suitable for the purpose intended should be used to affix export stamps securely to containers. Some adhesives suitable on wooden boxes may not be satisfactory on metal containers. Also, the handling that the articles are to receive, such as freezing, will determine the kind of adhesive to use. It has been found desirable to apply a thin covering of adhesive over the export stamp as an added protection.
- 24.2 When U. S. inspected and passed product is processed in other than an official establishment, it loses its identity as such and is no longer considered inspected and passed product. It is therefore not eligible for export certification as such.
- 24.3 Careful examination and inspection must be given to products for which export certificates are requested. The extent of reinspection of inspected and passed product depends on the type of product or container thereof and the size of the order. In some cases, sample inspection is sufficient while in others 100-per cent inspection might be necessary. The inspector must make such inspections as will assure him of the facts upon which he makes the export certification.
- 24.4 The inspector should sign the original of the export certificate in ink. Facsimile signature may be used on other copies of the certificate unless otherwise prescribed.
- 24.5 The packing of inspected and passed product in cartons or containers for export at places other than official establishments should be done under the Identification Service.
- 24.6 The foreign destination should be shown on the export certificate.
- 24.7(a) It is not necessary to furnish more copies of official export meat inspection certificates than is provided for in the Regulations. Exporters requesting additional copies may make photostats of the completed certificates furnished to them.
- (b) Restrictive statements such as "Lymph Nodes on" and "Lard, Current Production," should not be added to the name of the product on the regular export meat inspection certificate unless they are provided for in the Meat Inspection Regulations, Manual of Meat Inspection Procedures, or have been previously authorized by the Chief Staff Officer for Procedures and Requirements, Meat Inspection Division. Such statements should not appear on the certificate simply because the packer or exporter included it on his export certificate request Form MI-412.

24.8(a) Inspectors in charge are authorized to comply with requests received from time to time to inspect and certify for export product previously inspected and passed and so marked which is located elsewhere than in an official establishment. This may be done whether the product is located within reasonable limits of the official station, substation, or at a place so situated geographically that the export certification would logically be handled by the station receiving the request. In the latter case, the availability of an inspector must necessarily be considered. For example, if the meat inspection work at the small station is such as to require constant attention of the inspector or inspectors there assigned to a degree that the request cannot be complied with, then the person making the request should be so informed and asked to submit his request to the inspector in charge of a larger station where an inspector would be available, either near the place where the product is located or to the Washington office. An inspector in charge may transmit such a request with his comments to the Washington office if he believes such action demands. The party requesting the service is to reimburse the meat inspection appropriation for the expenses of travel and subsistence that an inspector incurs while away from his official station, but no charge shall be made against the person or firm requesting the service for the time of the inspector. Also the party requesting the service is to reimburse the meat inspection appropriation for inspection given during any overtime period. Information should be given to the Washington office on the current billing form. The employee shall claim reimbursement in the regular manner on Standard Form 1012.

(b) At the request of official establishments or military officials, export certificates and stamps may be issued for eligible product intended for overseas shipment by the Armed Forces.

In the event the product concerned does not comply in all respects with the special requirements of the receiving country as ordinarily applied to commercial shipments, the applicable sanitary or health certificate should not be issued. Under these circumstances, the regular export certificate, Form M.I. 412-3, and export stamps, Forms M.I. 412-10, may be used to certify the shipment for export.

24.9 Certification of inedible material that is to be exported, such as fertilizer, dried blood, bonemeal, and the like, and that includes a description of the method of processing and handling, the temperature to which the article has been heated, and the length of time maintained, can be performed under the Certification Service for Inedible Animal Byproducts administered by the Animal Inspection and Quarantine Division. (See AIQ Division Memorandum No. 640.13, March 24, 1958.) When this material is prepared or handled in an establishment at which our inspection is maintained, the AIQ Division has asked us to act for them. For this purpose a letterhead type of certificate should be used. This should show that the certification is by the AIQ Division with the inspector in charge acting for it.

The Washington staff of the AIQ Division will deal directly with inspectors in charge about this problem and furnish instructions to carry out the functions

Charges for the service should be billed against the AIQ Division and should include the time needed to complete the transaction, including the time of the inspector supervising the processing or preparation of product and time of anyone making out and handling the certificates. A minimum charge of 15 minutes should be made for each separate billing transaction, which means each time a certificate is issued. If supervision on a particular item covers more than 1 day the charge may be made on the last day.

Inspectors should state on Form BFD-96-1 the time spent on the project. Under "Remarks" a statement should be made to connect the form with the work done and the certificate issued, for example, "Blood Meal for Holland."

The regular inedible export certificate may be issued where no modification is required. This type of certification may also be provided for domestic shipments.

SECTION 24.10

Special Requirements
for
Exporting Products to Various Countries

This section replaces the May 1963 issue of
the Appendix to the Meat Inspection Division
Regulations

Issue of January 15, 1965

24.10 Special Requirements for Exporting Products to Various Countries.

It is the responsibility of exporters to determine the requirements of a foreign country. The following requirements have been brought to the attention of the Meat Inspection Division and are reproduced for the information of exporters and Meat Inspection Division personnel.

General

- (A) The official seal of the Meat Inspection Division, United States Department of Agriculture, will be used on MI-412-8 and MI 412-9.
- (B) Blue animal casing certificate (MI-415-4) may be issued to any country on request of exporters.
- (C) Numbered inedible product stamps, MI-415-6, and inedible product certificates, MI-415-3, may be issued upon request of the shipper for export shipments of casings, bladders, hoofs, horns, grease, and similar animal products.
- (D) Certifications and statements marked * will be made only at the request of the establishment or exporter. Charges will be made against the applicant for all additional time needed to develop the facts or supervise the product under the Certification Service (Part 40, Meat Inspection Regulations), or the Certification Service for inedible animal byproducts administered by the Animal Inspection and Quarantine Division (Part 24.9, Manual of Meat Inspection Procedures).

ALGERIA

Meat Products

- (A) Issue MI Form 412-11.

Casings

- (A) MI Form 412-11 may be issued.

ARGENTINA

Meat Products

- (A) Export certificate shall be visaed by consul of that country.

AUSTRALIA

Meat Products

- (A) Fresh and frozen meat and meat products are not eligible for exportation to Australia at this time due to the existence of hog cholera in this country.

(B) Cooked meats and cooked meat products contained in hermetically-sealed cans may be exported accompanied by the following certification signed by an authorized government veterinarian:

- (1) The goods were derived from animals slaughtered for human consumption in the United States.
- (2) The animals from which the goods were derived were subjected to ante-mortem and post-mortem veterinary inspection at the time of slaughter and were free from contagious and infectious disease.
- (3) The goods were not exposed to infection prior to exportation.

In addition, the following declaration by the manufacturer is required:

- (1) In the course of manufacture, every portion of the contents of the cans or tins has been heated to a temperature of not less than 100°C. (212°F).
- (2) The temperature of the heat used for that purpose and the length of time for which it was used has been endorsed by a government veterinary officer in the United States with a certificate certifying that he is familiar with the process of manufacture of the goods and that he has no reason to doubt the truth of the declaration.

Casings

- (A) Issue Form MI-415-5.

Inedible

- (*A) Cattle hides are not permitted entry from countries in which foot-and-mouth disease occurs. They must be accompanied by a certificate from a government veterinarian stating that the hides were derived from cattle slaughtered for human consumption.

AUSTRIA

Meat Products

- (A) The following statement will be made either on the reverse of the regular export certificate or on Department letter-head stationery: "This is to certify that neither rinderpest, foot-and-mouth disease nor contagious pleuropneumonia existed in the United States during the twelve months preceding slaughter of the animals from which these products were derived".

Casings

- (A) Issue MI Form 415-5.

BELGIUM

Meat Products

- (A) Issue MI Form 412-8.
- (B) Lard may be loaded in ships' tanks that have not been inspected for cleanliness by the Meat Inspection Division. The export certificates issued for these shipments will be properly qualified with a statement indicating the tankers were not inspected for cleanliness by the Meat Inspection Division.

Casings

- (A) Containers may be marked with blue animal casing stamp (MI-415-7). Each exportation shall be covered by MI Form 412-8 with words "Animal Casings" substituted for the word "Products". The certificate must bear the serial number of the export animal casings stamp used. Nodular casings shall be described on the certificate as "Nodular (not clear)".

CANADA

Meat Products

- (A) Certificate (MI Form 412-3) should show the address of consignor for products exported to Canada.
- (B) Livers are required to have portal lymph glands intact. Sliced liver in consumer-size packages accepted without the portal gland. Beef livers without portal lymph glands, shipped at the exporter's risk, should bear the statement "Beef Livers (not certified for presence of portal lymph glands)" on the export certificate.
- (C) Meat trimmings too small to permit adequate inspection are not permitted.
- (D) Dressed carcasses from which the peritoneum, pleura, or body lymph glands have been removed are not permitted.
- (E) Artificially colored product prohibited.
- (F) Spleens, udders, mucus membranes, parotid salivary glands, and lungs are prohibited in meat food products.
- (G) Any descriptive terms applied to meat products and composition of meat products must be consistent with the Canadian Food and Drug Act and Regulations and the Canadian Meat Inspection Regulations.
- (H) Foreign products originating in countries other than Argentina, Australia, Brazil, Denmark, France, Federal Republic of Germany, Republic of Ireland, Netherlands (Holland), New Zealand, Northern Ireland, Norway,

Paraguay, Poland, Portugal, Scotland, Sweden, Switzerland, United States of America, Union of South Africa, and Uruguay are not permitted entry into Canada.

- (I) Bulk products such as fresh hams, bellies, etc., may only be shipped from official establishments in this country directly to registered establishments in Canada. If this is not the case, products of this nature must be placed in packages such as cartons or boxes bearing markings approved by the Canada Department of Agriculture. Each bulk piece must be legibly branded with the inspection legend of an official establishment. There must be at least three brands to each hog side. Skinned bacon bellies may be bundled and tagged. The tags should bear all the required labeling features including an inspection legend. The mandatory information for loose or bulk meat must appear on a placard 12" by 12" on the doors of railroad cars, trucks, or trailers and shall show the following:
 - (1) The name and address of the packer or first dealer. The address shall include the abbreviation U.S.A. In the case of a first dealer or distributor, the name shall be preceded by the words "Packed for".
 - (2) A true and correct description of the contents. The animal species must be shown as well as the cut or portion name.
 - (3) The statement "Product of U.S.A." must appear immediately below the product description in a clear and legible manner which usually requires that it be in letters at least half the size of those used in the product name.
 - (4) Net weight and the word "weight" must be spelled in full.
 - (5) The official serially numbered MI Form 412-10 (Export stamp). For approval purposes the domestic meat label is acceptable provided it is indicated that the official export stamp will be used on the actual shipment.
- (J) A similar placard is expected for beef quarters, skin-off calf carcasses and hog carcasses. However, in the case of skin-on calf carcasses an approved individual carcass tag is required in lieu of external branding.
- (K) Meat identified under Part 40 of the Regulations is not eligible for entry into Canada according to their standards.

Casings

- (A) MI Form 415-5 may be issued in duplicate.
- (B) Animal casings must have been slimed and strip ed so that the mucous lining is completely removed by means other than fermentation. Markings must be approved by the Canadian Veterinary Director General.

Inedible

- (*A) The following statement will be made on MI Form 415-3:
"The material described on this form originated in an establishment operating under U. S. Federal inspection and was derived from animals that received ante-mortem and post-mortem inspection and were found to be free of disease at time of slaughter."

COLOMBIA

Meat Products

- (A) Certificate should be visaed by consul of that country at place of origin or first port.
- (B) MI Form 412-7 issued in five copies for lard destined to Colombia. The fifth copy is for the station file of the Meat Inspection Division.

CZECHOSLOVAKIA

Meat Products

- (A) The following certificate, on the reverse of the regular export certificate or on Department letter-head stationery, may accompany lard.
 - (1) Originates from hogs which were found to be healthy before, during, and after slaughter, and that the meat, including fat, is suitable for human consumption without any restrictions.
 - (2) No anti-oxidants were used in producing the lard.

DOMINICAN REPUBLIC

Meat Products

- (A) Export certificate to be visaed by consul of that country at place of origin or first port.

ECUADOR

Meat Products

- (A) Certificate to be visaed by consul.

FRANCE

Meat Products

- (A) Issue MI Form 412-11. Pork meat must be examined by trichinoscope with negative results. Pork livers and other edible pork organs may be shipped without trichinae examination.
- (B) The establishment brand must be applied in ink to the exterior of the packages and to a "ticket" placed loose in the interior of each package. An imprint of the establishment brand must also be placed on the sanitary certificate. Any size brand may be used.
- (C) Under part 2 of the sanitary certificate, origin of the shipment, the establishment at which the product is packed, even if different from the slaughterhouse, should be recorded. In this way the recorded establishment number will correspond with the brand mark on the packages, the inserts, and the sanitary certificate.

Casings

- (A) Issue MI Form 412-11 in triplicate; triplicate copy retained in station file.
- (B) Casings must be derived only from animals which have been U. S. inspected and passed. When necessary, inspectors will require affidavits from exporters covering the origin of the casings.

GERMANY

Meat Products

- (A) Issue MI Form 410-10 for fresh meat and MI Form 410-11 for processed meats.

Since the above forms are required for certification of products under the new German Meat Inspection Law, applicable parts of the law are included:

Extracts from German Meat Inspection Law of March 15, 1960

Article 12a(4)

Imported fresh animal carcasses may also be divided in quarters in the case of cattle—excluding calves—and reindeer; and cattle, reindeer, sheep, and goats may be imported without lungs and heart, cows without udder, hogs without lungs, heart, leaf, and kidneys, provided that

- (1) the slaughterhouses in which animals were slaughtered have been approved for slaughter of animals destined for export to the Federal Republic of Germany by the top veterinary authorities of the country of origin under the assignment of a veterinary control number, and that these establishments were made public by the Federal Minister (of Agriculture);
- (2) the animals were inspected by veterinarians ante- and post-mortem according to regulations which are not less stringent than the German meat inspection regulations and that their meat was passed and declared fit for human consumption, and
- (3) the shipment is accompanied by a health certificate issued by the veterinary authorities of the country of origin, the contents and form of which are prescribed by an Ordinance issued by the Federal Minister (of Agriculture) after approval by the Bundesrat.

Article 12b

- (1) Fresh inner organs from cattle—excluding calves—hogs and sheep, pluck from hogs as well as fatback, also with rind and thin inner or outer muscle layers, pettitoes and heads from hogs may only be imported separately under the conditions set forth in Article 12a, paragraph 4, Nos 1 - 3, and in the following paragraphs:
- (2) Inner organs with the exception of kidneys and hearts are required to have lymph glands naturally attached.
- (3) Beef hearts shall have been subject to refrigeration in the country of origin for at least 6 days under temperatures not higher than -10°C . This treatment shall be certified in a health certificate issued by the veterinary authorities of the country of origin, the contents and form of which is prescribed by an Ordinance issued by the Federal Minister (of Agriculture) after approval of the Bundesrat.

- (4) Inner organs and pluck shall only be imported in containers which do not leak moisture and fat.
- (5) Frozen inner organs, pluck, pettitoes and heads shall be presented for import inspection in a completely defrosted condition.
- (6) Definitions:
 - (a) Inner organs: heart, lung, liver, spleen, and kidneys;
 - (b) Pluck: tongue, gullet, windpipe, lung, heart, liver, and the attached lymphatic glands in natural cohesion;
 - (c) Pettitoes: the final parts of the extremities of hogs ending in the carpal or tarsal joint;
 - (d) Fatback: the fat layer between rind and muscular tissue of hogs.

Article 12c

- (1) Prepared meat shall only be imported if
 - (a) concerning the animals from which the meat is derived the conditions of Article 12a, paragraph 4, Nos. 1 and 2, have been complied with;
 - (b) it has been prepared in a processing establishment of the country of origin which has been approved for export to the Federal Republic of Germany by the top veterinary authorities of the country of origin under the assignment of a veterinary control number, and made public by the Federal Minister (of Agriculture);
 - (c) the shipment is accompanied by an official veterinary health certificate, the contents and form of which are prescribed by an Ordinance issued by the Federal Minister (of Agriculture) after approval by the Bundesrat.
- (2) According to this new law, meat is regarded as prepared if it has lost the characteristics of fresh meat by treatment, such as follows:
 - (a) Heating to an internal temperature of at least 65°C. (149°F.) e.g. beef tongues.
 - (b) Pickling with salt or with salt in combination with pickling substances so that all parts of the tissue contain at least 6 per cent salt or at least 4 per cent salt if the moisture content is at least 25 per cent, e.g. fatbacks.
 - (c) Rendered fats.

- (*B) Beef Tongues—A longitudinal incision shall be made through the muscles of the lower side of the tongue from the tip to the base as a further examination for cysticercosis. Fresh beef tongues may be exported only when identified with the head and all quarters making up a complete carcass. Incised beef tongues may be cooked to a minimum internal temperature of 149°F. and exported separately as cooked or prepared meat (MI Form 410-11 would be used in this instance).
- (*C) Frozen cattle carcasses may be shipped in quarters without heads. The quarters must be marked to identify whole carcasses. The kidneys must be attached and exposed.
- (*D) All Hearts—Both ventricles shall be opened by longitudinal incisions which will cut through the partition wall of the ventricles.
- (*E) Beef and Sheep Livers—The bile duct will be opened by the normal method. In addition, a transverse incision will be made across the omasal impression of the visceral surface of the liver sufficiently deep to cut the smaller branches of the bile duct. A second transverse incision will then be made across the visceral surface of the liver from beside and below the caudate lobe again cutting the smaller branches of the bile duct. The attached reproduced photographs illustrate the location and extent of these lesions.
- (*F) All Livers—Hepatic lymph nodes are to be attached and incised by a number of incisions.
- (*G) Organs which showed parasitic lesions on post-mortem inspection shall not be exported.
- (*H) Lard must be prepared without refining. MI Forms 412-1 and 412-2 are obsolete and replaced by MI Form 410-11. The following may be added to lard in unspecified amounts and without declaration: sodium citrate, ascorbic acid, sodium ascorbate, erythorbic acid,

sodium erythorbate, tocopherols with acetic acid and with fat forming fatty acids such as stearic, oleic, linoleic, linolenic, palmitic and myristic. Laboratory samples should be submitted for the presence of BHT, BHA, and gallates which are prohibited additives. They should also be submitted for peroxide values which should not exceed 4. Samples should be taken from the final package, such as drum, box, etc. A sufficient number of samples should be taken to get a representative picture of the shipment. For example, if the lard is derived from a single lot or holding tank, it is suggested that 8 or 9 of the drums should be sampled. One of the samples should be taken from the first lard drawn. Equal portions of 4 of these single samples (not more than 4) can be combined in a composite sample. The lard shall not be older than 8 weeks from time of production to time of export. It may be exported only in the following containers:

- (a) Wooden boxes holding 25 kilograms (approximately 55 pounds), with one partition forming two 12.5 kilogram parcels. The wooden boxes must be lined with impermeable paper so as to cover the commodity completely.
 - (b) Carton holding 10 kilograms (approximately 22 pounds). The carton must be made of impermeable material or be lined with paper as in (a).
 - (c) Metal drums of approximately 180 kilograms capacity (approximately 397 pounds), the inside walls of which are of acceptable non-corrosive material.
 - (d) The restriction on antioxidants in lard may be waived for special purchases of lard intended for Berlin storage purposes when specifically requested by the foreign importer. The certificates for these shipments containing BHA, BHT, and/or gallates should be modified by including a statement indicating the presence of the antioxidants and the amounts added.
- (*I) Hog carcasses may be shipped in halves. The head must be split and left attached. The sides must be marked to identify whole carcasses. The tonsils, eyeballs, and ear-drums must be removed.





GREAT BRITAIN - UNITED KINGDOM

Meat Products

- (*A) Cooked pork may be exported without restriction. This includes all pork products that do not have to be further cooked to be consumed. Hams are under a quota and hence their importation is restricted.
- (B) Fully cured bacon and ham may be exported from the U.S.A. to Great Britain for consumption in U. S. Force troop messes (including officers and NCO messes) or for resale in U. S. Forces commissaries under a license issued by the British Ministry of Agriculture, Fisheries and Food.

Conditions Attaching to This License—

- (*1) Each consignment must be accompanied by a certificate signed by a duly authorized officer of the United States Federal Government describing fully the process of curing to which the product has been subjected, which shall be one of the following:
- (a) Pumping with brine under a pressure of 80 pounds or more to the square inch and subsequently soaking in brine or dry salting for a period of not less than four days; or
 - (b) Salting (wet salting or dry salting) for a period of not less than ten days.
- (*2) Each consignment shall be accompanied by a certificate signed by a duly authorized officer of the United States Federal Government, certifying that the pigs from which the bacon and ham were derived were slaughtered in one of the following states:

Alabama	Kansas	Nevada	Rhode Island
Alaska	Kentucky	New Hampshire	South Carolina
Arizona	Louisiana	New Mexico	South Dakota
Arkansas	Maine	New York	Tennessee
Connecticut	Maryland	North Carolina	Texas
Florida	Michigan	North Dakota	Utah
Georgia	Minnesota	Ohio	Vermont
Hawaii	Mississippi	Oklahoma	Virginia
Idaho	Missouri	Oregon	West Virginia
Illinois	Montana	Pennsylvania	Wisconsin
Iowa	Nebraska	Puerto Rico	Wyoming

- (C) Fresh and processed pork products (excluding fully cured bacon and ham) may be exported from the U.S.A. to Great Britain for consumption in U. S. Forces troop messes only under a license issued by the British Ministry of Agriculture, Fisheries and Food.

Conditions Attaching to This License—

- (1) The refrigerated pig meat and processed pig products shall comprise any or all of the following items which will not require trimming or processing before being cooked: pork loins, spare ribs, Boston butts, and ready-to-eat sausages containing pork.

- (*2) Each consignment must be accompanied by a certificate signed by a duly authorized officer of the U. S. Federal Government, certifying:

- (a) That the pigs from which the pig meat/pig meat products was/were derived and were slaughtered in one of the following states:

Alabama	Kansas	Nevada	Rhode Island
Alaska	Kentucky	New Hampshire	South Carolina
Arizona	Louisiana	New Mexico	South Dakota
Arkansas	Maine	New York	Tennessee
Connecticut	Maryland	North Carolina	Texas
Florida	Michigan	North Dakota	Utah
Georgia	Minnesota	Ohio	Vermont
Hawaii	Mississippi	Oklahoma	Virginia
Idaho	Missouri	Oregon	West Virginia
Illinois	Montana	Pennsylvania	Wisconsin
Iowa	Nebraska	Puerto Rico	Wyoming

- (b) That the refrigerated pig meat and processed pig products come from slaughterhouses subject to Federal meat inspection and processed products (such as sausages) from processing plants which obtain meat exclusively from federally inspected plants.

- (3) The refrigerated pig meat and processed pig products shall be packed in leak-proof containers.
- (4) Refrigerated pig meat and processed pig products from the United States shall be consumed in American Forces messes (in recognized American Camps) and shall not be removed from these messes for any purpose whatsoever.

- (5) Packages of refrigerated pig meat and processed pig products shall be kept hard frozen until taken into the mess kitchens for defrosting immediately before cooking. All wrappings, including leak-proof containers, shall be destroyed on the camp site by burning.
- (6) All swill shall be disposed of solely to the collectors approved by the Minister of Agriculture, Fisheries and Food.
- (*D) Livers, with the exception of lamb livers, must have the hepatic lymph nodes attached.
- (E) The following is prohibited importation:
 - (1) Scrap meat—Meat which consists of scraps, trimmings, or other pieces (with or without bone), of such shape or in such condition as to afford insufficient means of identification with a definite part of a carcass.
 - (2) Meat comprising the wall of the thorax or abdomen from which there has been detached any part of the pleura or (except in the case of meat derived from a pig) the peritoneum, other than a part necessarily removed in preparing the meat.
 - (3) Meat other than mutton and lamb from which a lymphatic gland, except a gland necessarily removed in preparing the meat, has been taken out.
 - (4) The head of an animal without the submaxillary gland.
- (F) At exporter's request, lard destined to England and Scotland may be loaded in ships' tanks that have not been inspected for cleanliness by the Meat Inspection Division. The export certificate issued for these shipments will be properly qualified with a statement indicating the tankers were not inspected for cleanliness by the Meat Inspection Division.
 - (1) An inventory of U. S. inspected and passed lard or rendered fats will be maintained when these products are handled under the identification service. This will include additions to and removals from each tank. The inspector should be able to estimate the amount of product in storage at all times.

- (2) An inspection opening will be required in each tank. The connection of the tank to any line will be broken by the removal of a 1-foot section of pipe at the time the tank is sealed. Transfer from the tank to the ship will only be permitted through a line having **no** other connections than to the tank. Otherwise the transfer will be accomplished by tank truck.
- (3) The ships' tanks should be examined to ascertain they are empty before operations are started. If operations are interrupted for any reason, the hatch on the tanker will be sealed and not broken until operations are resumed under supervision. Whenever possible, weights should be checked with the marine surveyor.
- (4) One (1) export stamp, MI Form 412-10, should be issued for each ships' tank that is utilized. The stamps should be given to the ships' cargo officer. It is suggested the tank number be recorded on the reverse side of the stamp.
- (*G) Edible fats and oils exported to the United Kingdom may contain antioxidants in the following amounts:
- | | |
|---|---------|
| Propyl gallate, octylgallate, dodecylgallate,
or any mixture of the three----- | 100 ppm |
| Butylated hydroxyanisole (BHA)----- | 200 ppm |
| Butylated hydroxytoluene (BHT)----- | 200 ppm |
| Any Mixture of BHA and BHT----- | 200 ppm |
| Citric Acid----- | 100 ppm |
- The label on product containing antioxidants must include a description of the antioxidant and the maximum amount expressed in parts per million.
- (H) The following statement may be added to the reverse side of the export certificate for products other than pork:
 "I certify this shipment contains no pork meat and product is derived from an abattoir operating under Federal meat inspection.
- Signed....."
- (I) Cloth wrappings used as an outside container for product must bear numbered export meat inspection stamps.

Casings

- (A) Only animal casings derived from animals slaughtered in official establishments which have been handled in a sanitary manner and have not been treated with and do not contain any preservative, coloring, or other prohibited substance and which upon examination by Division inspectors are found to be fit for sausage containers shall be exported to Great Britain.
- (*B) Inspectors will satisfy themselves of the origin of the casings through affidavit of the exporter and of the sanitary handling by examination of the premises and the methods of preparation.
- (C) The containers of animal casings for Great Britain shall be marked with the regular export stamp but the casings need not be certified at the time of export. However, upon request of the exporter, MI Form 415-5 may be issued in duplicate to cover such exportation.

GUATEMALA

Meat Products

- (A) Export certificate to be visaed by consul of that country.

HAITI

Casings

- (A) Export certificate to be visaed by consul of that country.

HONG KONG

Meat Products

- (A) Regular export certificates will be issued for all export shipments to the Crown Colony of Hong Kong.
- (B) The following are refused entry:
 - (1) Scrap meat, that is, meat which consists of scraps, trimmings or other pieces (with or without bone) of such shape or in such condition as to afford insufficient means of identification with a definite part of the carcass.

- (2) Carcasses from which the pleura or peritoneum (except pigs) has been removed.
- (3) Meat without skeletal lymphatic glands (except mutton and lamb).
- (4) Heads with the submaxillary gland.

IRELAND

Casings

- (A) Containers of animal casings consigned to Ireland shall be marked with the regular export stamp (MI Form 412-10). Each exportation shall be covered by MI Form 415-5.

ITALY

Meat Products

- (A) Export certificate to be visaed by consul of that country.
- (*B) Oleo oil required to contain 5 per cent of sesame oil. The export certificate accompanying the shipment shall bear the statement "Oleo oil to which exactly 5 per cent of sesame oil has been added."

JAMAICA

Meat Products

- (A) To the export certificate covering fresh, frozen, cured and/or smoked meat should be added the statement "The United States is free from Foot-and-Mouth Disease."

JAPAN

Meat Products

- (*A) The following information in a Department letterhead certificate should accompany the regular export certificate for shipments of other than canned meats:
 - (1) Name and address of exporter.
 - (2) Name and address of importer.
 - (3) Kind (species) of animal.
 - (4) Quantity and weight (gross and net) of product.

- (5) Name of inspecting authority.
- (6) Dates of slaughter.
- (7) The meat or meat product herein described was derived from animals which were found upon ante-mortem and post-mortem inspection to be free of communicable animal diseases.

KENYA

Meat Products

- (A) Issue regular certificate, MI Form 412-3.

Casings

- (A) Issue sanitary certificate, MI Form 415-5.

MALAYSIA

Meat Products

- (A) Carcasses, meat and meat food products intended for export to the Federation of Malaya must be accompanied by the following certifications:
 - (1) A general veterinary certificate stating that the country was free from Foot-and-Mouth Disease and Rinderpest for six months immediately prior to the slaughter of the animals from which the products for export to the Federation were derived.
 - (2) A certificate stating that the meat or meat food products have been derived from animals subjected to ante-mortem and post-mortem examinations and have been found to be free from infectious and contagious disease and that the products for export to the Federation are fit for human consumption and that every precaution has been taken to prevent contamination prior to export.
 - (3) An import permit from the State Veterinary Officer permitting the importation of such product into Malaysia.
 - (*4) In the case of pork or pork products, a further veterinary statement is required certifying that the country or district was free of swine fever (hog cholera) during the last six months. "District" has been interpreted to mean a state or county. This statement is not required for canned pork products or for lard.

MEXICO

Meat Products

- (A) Five copies of the export certificate are required.
The fifth copy should be a photostat of the original.

NETHERLANDS

Meat Products

- (A) MI Form 412-9 to be issued in addition to regular export certificates (except rendered animal fats).
- (*B) Export certificates shall be issued for fresh pork cuts, pork livers, pork kidneys and hog casings destined to the Netherlands with the following additional certification written and signed by the inspector in charge on the reverse side of this certificate: "The fresh pork described on the reverse side of this certificate was refrigerated continuously for not less than three weeks at a temperature not higher than 15°C. below freezing (5°F.). Fresh meats divided smaller than a quarter of a carcass are not generally accepted for importation. Primal or retail cuts may, however, be certified for export provided the exporter assumes the responsibility in writing for ultimate acceptance of the product.

Pork products may be exported without the freezing certification, or, certification may be given for the actual freezing time supervised. The export certificate should indicate the extent of supervision, such as "No freezing certification" or "Five days at a temperature not higher than 15°C. below freezing". In these cases the product is frozen for the required time in bonded storage at destination.

(*C) Rendered Animal Fats

- (1) The following antioxidants may be added to rendered animal fats or to combinations of rendered animal fats and vegetable fats exported to the Netherlands: dodecylgallate, octylgallate, propylgallate. The permitted amount of these antioxidants may not exceed 0.01 per cent when used either singly or in combination.

- (2) The antioxidants dodecylgallate and octylgallate are not among those listed in 18.7(d) of the Meat Inspection Regulations but may be used for export only as provided in 18.8 of the Regulations.
- (3) Regular export stamps (MI 412-10) and certificates (MI 412-3) will be used as well as a certificate in the following form which may be executed by the responsible veterinary inspector at the request of the exporter:

"The undersigned (name and title of the authorized veterinary officer in the country of origin), at , certifies: that the edible rendered fats packed in (description of packing), gross weight , net weight and marked as follows—(name of product), forwarded from (place of dispatch) by (name and address of shipper) and destined for (name and address of consignee) forwarded by (manner of forwarding, name of ship when shipped), were derived from slaughtering animals of the type as defined in the (Dutch) Meat Inspection Act, which were subjected to ante-mortem and post-mortem inspection and were found to be entirely sound and fit for human consumption; that, insofar as it contains common salt, it only contains it in very small quantities; that, insofar as preservatives have been used, no other preservatives have been used than propylgallate and/or octylgallate and/or dodecylgallate, and that the total contents of these gallates do not amount to more than 0.01 per cent; that it is free from all other substances foreign to animal fats and oils; that the composition is in conformity with the composition ~~as~~ may be expected in view of the mark stated; that the composition in no respect is in contravention of the purport of this certificate.

Given at , on

"
(Signature)

Meat animals as defined in the Dutch Meat Inspection Act are: Horses, cattle, sheep, goats, and swine. If the rendered animal fats being exported are derived from horses, regular export stamps and certificates, of course, will not be used.

Casings

- (A) MI Forms 415-5 and 412-9 shall be issued for animal casings destined to the Netherlands.

NEW ZEALAND

Casings

- (*A) May be admitted at the ports of Auckland, Gisborne, Napier, New Plymouth, Wanganui, Wellington, Lyttleton, Timaru, Port Chalmers, Dunedin, or Bluff, when accompanied with a certificate in the following form duly executed by the exporter and Division inspector:

Form No. 1

I, (give name and status) of the (give name of premises), (where casings produced or prepared) situated at or near (give name of town) in the country or district of (country), in the country or State of (State) do hereby solemnly and sincerely declare that the sausage casings more particularly described below to be shipped by _____ of _____, to _____ of _____.

- (a) Were derived from animals which received ante-mortem and post-mortem veterinary inspection at the time of slaughter;
- (b) Were found to be healthy and in every way suitable for human consumption;
- (c) Are sound, healthful, wholesome, and otherwise fit for human consumption;
- (d) Have not been treated with chemical preservatives or other foreign substances injurious to health;
- (e) Have been handled only in a sanitary manner; and

(f). Were not exposed to contagion prior to exportation.

Description of Casings

Number and Description of Packages	Description of Casings	Brands and Marks

And, I make this solemn declaration conscientiously believing the same to be true, and by virtue of the provision of (state here under what statutory provisions the declaration is made)

Signed _____"

"Declared at _____, this _____ day of _____
19____, before me.

Signed _____"

In any country outside the British Commonwealth the declaration is to be made before a British consul or vice consul, or before any other authorized person.

Form No. 2

Government veterinarian's certificate to accompany sausage casings to New Zealand:

"I, _____, a duly qualified veterinarian, now employed by the Government of _____, hereby certify that I have no reason to doubt the correctness of the above declaration in any particular. Dated at _____, this _____ day of _____ 19____.

Signed _____"
(Veterinary Inspector
in Charge - Meat Inspection
Service)

Accordingly, a certificate as a single document, including Form No. 1 and Form No. 2 as above specified, shall be furnished in duplicate fully executed by the exporter and Division inspector in charge for each consignment of sausage casings of animal origin destined to New Zealand. The certificate forms shall be supplied by the exporter. The animals slaughtered in official establishments and handled only in a sanitary manner. Inspectors will satisfy themselves of the origin casings and the sanitary handling thereof before issuing certificates. Furthermore, all such casings intended for exporting to New Zealand shall first be examined by Division inspectors and only those found fit for use as sausage containers in official establishments shall be certified. A copy of each certificate shall be placed in the station file.

NORWAY

Meat Products

- (A) Certificate to be visaed by consul. Imports by license only.

Casings

- (*A) At the request of the exporter, the following certification may be given on letterhead stationery:

"I hereby certify that the animal casings herein described were derived from healthy animals (cattle, horses, swine, sheep, or goats) slaughtered in a slaughterhouse in this country and received ante- and post-mortem veterinary inspection at the time of slaughter. The product is declared fit for human consumption. The casings are clean and sound and were prepared in a sanitary manner and do not contain other preservatives than common salt (NaCl) and no coloring or bleaching agent. The barrels were thoroughly cleaned before packing and disinfected externally before leaving the plant and have not been used for products harmful to meat.

<u>Tarmsort</u>	<u>Antall Koll</u>	<u>Vekt.</u>
(Kind of Casings)	(No. of Packages)	(Weight)

Veterinaerens Kontrollmarke pa Koll
(Veterinary Inspector's Marks on the Package)

Avsender	Adresse
(Consignor)	(Address)
Mottaker	Bestemmelsessted
(Consignee)	(Destination)

Fraktmerke
(Shipping Marks)

(Signature)
Kontrollveterinaer
autorisert av.
(Veterinary Inspector
authorized by)

Veterinaedirektoratet
mads Gaustad."

POLAND

Meat Products

- (A) Export certificate to be visaed by consul of that country.
- (*B) The following letterhead certificate signed by an official veterinarian should accompany the regular export certificate for shipments of pork:
 - (1) Meat is derived from hogs slaughtered in an establishment under permanent veterinary supervision.
 - (2) Meat is derived from animals which received veterinary ante-mortem and post-mortem inspection.
 - (3) Meat is sound and fit for human consumption with no indication of hog cholera (Swine Fever) or other contagious animal disease.
 - (4) There is no Foot-and-Mouth Disease in the United States.

ST. VINCENT ISLAND

Meat Products

- (A) Export certificate covering fresh, cured, or smoked products destined to St. Vincent Island may be modified by adding the statement, "The United States is free of Foot-and-Mouth Disease."

SALVADOR

Meat Products

- (A) Export certificate must be visaed by consul of that country.

UNION OF SOUTH AFRICA

Casings

- (A) The statement "And were free from infectious diseases at time of slaughter" may be added to MI Form 415-5 for hog casings.

SWEDEN

Meat Products

- (A) Prohibition on pork products due to hog cholera. On the reverse of the export certificate, "The meat or product described in this certificate was packed in a sanitary manner and is fit for human consumption."

(Signed)

SWITZERLAND

Meat Products

- (A) Issue Form MI 412-5.
- (B) Pork and pork products exported to Switzerland will be subjected to trichinoscopic examination at destination. In addition, shipments must be certified by an official veterinarian as meeting the following conditions:
 - (1) The pigs were derived from a State participating in the Federal-State hog cholera eradication

- program.
- (2) The pork is derived from pigs slaughtered in a permanently supervised slaughterhouse and were found to be healthy before and after slaughter.
 - (3) The pork is wholesome and does not contain any antiseptic whatever.
 - (4) The pork has been prepared, handled, and dispatched according to the prevailing sanitary regulation.

These statements may be placed on the reverse side of the sanitary certificate or submitted separately on Department letterhead stationery.

VENEZUELA

Meat Products

- (*A) The following certification in Spanish and English may be added to the reverse of the regular export certificate or on letterhead stationery at the request of the exporter for pork exported to Venezuela:

"I certify that the product shipped under the certificate has been processed by a method approved by the United States Department of Agriculture which method is adequate to destroy any possible live trichinae. I further certify that this product has been held in a freezer for a period of not less than 30 days at a temperature not in excess of 5°F.

"

Inspector in Charge

"Yo certifico que el producto enviado y amperado por este certificado ha sido processado por metados aprobados por el Departamento de Agricultura de los Estados Unidos y que son adecuados para destruir cualquier triquina que pudiese existir. Asimismo certifico que este producto ha sido mantenido en un congelador durante un período no menor de 30 días y a una temperatura no excediendo 5 grados Fahrenheit."

It will be satisfactory to provide a modified variation of the certificate to suit other methods of treating pork for trichinae providing an accurate Spanish translation can be provided.

- 25.10 Tank cars of inspected and passed rendered animal fat moving between official establishments shall be marked as outlined in section 16.16 of the Regulations.
- 25.11 Inspectors in charge are directed to report by letter to the Washington office, after a reasonable waiting period, the nonarrival of sealed cars. Full information should be given regarding kind of product, vehicle identification, and originating establishment with other pertinent facts, including a statement from the establishment concerning their knowledge of the transaction.
- 25.12 The form "Notice of Unmarked Meat Shipped Between Official Establishments Under Seal" should accompany shipments of products under seal between official establishments. The form need not contain a detailed description of the marked product. Since it is known that the unmarked product constitutes at least 25 per cent of the lot moved under seal, the weight of the marked product should be entered, and it should be described as "various" if that term is applicable. However, the unmarked product should be described in detail as should also restricted product such as "U.S. Passed for Cooking" or "pork product _____ of _____ days refrigeration" or "beef passed for refrigeration."
- 25.13 Meat food products not bearing the mark of Federal inspection, such as cured ham, bacon, lard, sausage, and the like, as well as hamburger and chip steaks, which are transported or offered for transportation in interstate commerce under a certificate of exemption, may be disposed of only to consumers, such as families, restaurants, hotels, and clubs, and not to any person or firm for resale as such.
- 25.14(a) For a shipment of meat or meat food products to be accepted by a common carrier for transportation in interstate commerce under the authority of a certificate of exemption, it must be covered by a shipper's certificate, executed in duplicate in the form set out in section 25.10 of the Regulations. Both the original and duplicate copy of the shipper's certificate must be delivered to the agent of the transportation company accepting the shipment. The Division does not provide these forms, and if the carrier fails to do so, the holder of the certificate of exemption should furnish his own.
- (b) When meat or meat food products are transported in interstate commerce under authority of a certificate of exemption in the private conveyance of the holder thereof, he should execute and mail to the Division a shipper's certificate.
- However, when deliveries are made by private conveyance during any 1 day to several customers in other States who are consumers, an individual shipper's certificate for deliveries to each such customer is not necessary. Only one shipper's certificate showing the kind and total

amount of product for that day and listing the consignee as "various" is required. When fresh meat not bearing the mark of Federal meat inspection is transported interstate in the private conveyance of the exemption certificate holder to another retail meat dealer, a shipper's certificate for each such interstate movement should be executed and mailed to the Division. Shipper's certificates covering interstate transportation by private conveyance need not be mailed to the Division oftener than once a week.

(c) On the shipper's certificate used by retail meat dealers holding a certificate of exemption, whole carcasses or quarters should be listed as such under "Fresh Meats." The weight of the carcasses or quarters should also be included in the box "Number of Pounds" under "Fresh Meats" and added to the number of pounds of fresh meats shipped as trimmings or cuts if the certificate covers both carcasses and quarters, and fresh meats other than carcasses and quarters.

In reporting processed meats such as chopped, cooked, cured, dried, or canned meat, sausage, lard and such products, it is not necessary to list each kind of product separately; they may all be grouped together and reported as one figure.

The number of nonfederally inspected carcasses that may be shipped interstate by a retail meat dealer holding a certificate of exemption is limited by the Meat Inspection Act. The number of carcasses and the fresh meat equivalent are as follows (per week):

	<u>Carcasses</u>	<u>Pounds</u>
Beef-----	5	3,000
Veal-----	25	1,875
Mutton-----	20	1,200
Lamb-----	25	1,250
Pork-----	10	2,000
Goat-----	20	1,000
Goat kids-----	25	500

(d) It is urged that the correct form of shipper's certificate be used by retail butchers and retail dealers who are holders of certificates of exemption. It should be printed on a good grade of paper exactly 3½" x 8" in over-all size. Certain entries that do not vary may be printed on the form; for instance, the shipper, his address, the exemption certificate number, and probably the point of shipment.

25.18 In the event it is necessary to denature nonfederally inspected rendered fat which resembles an edible product and which is offered for exportation, importation, or interstate movement, charcoal of vegetable origin of fine particle size may be used as a denaturant in the proportion of one pound of such charcoal to 10,000 pounds of rendered fat.

The following denaturants may be used, but might not be acceptable to the shipper because of certain objectionable properties which would make the rendered fat unacceptable for the intended use:

To each 750 pounds of fat, use---

- (a) One-third ounce of brucine dissolved in a mixture of two parts of alcohol (ethyl, methyl, isopropyl, or denatured) and four parts of pine oil or oil of rosemary. (The amount of alcohol and pine oil or oil of rosemary is not specified as it is only required that enough be used to dissolve the one-third ounce of brucine.)
- (b) One-half gallon creosote.
- (c) Two gallons of pine tar.
- (d) One-fourth gallon of pyridine.
- (e) One-half gallon of No. 2 fuel oil or approved mineral oil.

When the laws or regulations of a foreign country to which such fats are being exported require or permit the use of other denaturants, such alternate denaturants may be used providing they properly accomplish decharacterization.

It is the shipper's responsibility to see that the article is acceptably denatured.

PART 26—FEDERAL FOOD, DRUG, AND COSMETIC ACT

26.1 Procedure of action taken by the Food and Drug Administration against interstate movement of meats and meat food products found to be in violation of the Food and Drug law is as follows:

Section 902(b) of The Food, Drug, and Cosmetic Act exempts meats and meat food products from its provision to the extent of the application of the Meat Inspection Act. Since the Meat Inspection Act contains no seizure provisions, meat and meat food products that are violative of the Food, Drug, and Cosmetic Act are not exempt from seizure under this Act. The Meat Inspection Division has welcomed in the past and will continue to welcome seizure actions by the Food and Drug Administration against violative meat food products found in interstate channels, in the interest of the protection of the public.

If an MID inspector anywhere in the field encounters a consignment of a meat product that is unsound or unwholesome, he has no authority to institute action against it but he has the responsibility of calling the consignment to the attention of the nearest available regulatory food official who does have the authority to seize it or to put some restraining order on it to prevent its distribution to the consuming public. If the inspector is located in one of our station cities or where a Food and Drug Administration inspector may be near by, he calls it to the attention of the Food and Drug station or inspector, and in so doing he is saying in effect that the Meat Inspection Division is turning the consignment over to the Food and Drug Administration for whatever action it deems appropriate under its seizure provisions. If the MID inspector happens to be located at a place remote from any Food and Drug office, but near a State official, he would call the attention of the State official to a violative consignment for whatever action the State official might desire to take under his law.

If an obviously violative interstate shipment of meat or meat food product is located by Food and Drug personnel, rather than by a meat inspector, the Food and Drug inspector would proceed against the product under the Food and Drug Law. Notification of action will be made to the nearest Meat Inspection Division office.

condition, redelivery of the lots should be requested and subsequent lots held pending incubation.

Import Inspections

27.7(a) There appears in the Working Reference a list of foreign meat establishments by number, name, and location. The establishments are listed in numerical order under the names of the foreign countries (in alphabetical order) whose meat inspection system we consider comparable to ours. This is in accordance with the criteria shown in the May 1963 amendment to Part 27.2 of the Meat Inspection Regulations. Countries have been informed that the identifying number and name of the producing establishment must appear on the approved foreign meat inspection certificate covering shipments.

Product will be inspected at entry points from only those establishments that appear on the published listing. Import inspectors will check the origin of shipments before making inspection of products.

(b) The inspection of all import products, whether such inspection is made at the port of entry or at destination and regardless of country of origin (whether from so-called foot-and-mouth countries or others), will be conducted in the same general manner to determine whether the product is acceptable. The acceptability of all import products will be on the basis of a complete lot presented for inspection and covered by an approved certificate of the foreign country. Acceptance will depend on whether such product is judged to be sound, wholesome, and otherwise fit for food and neither adulterated nor mislabeled on the basis of an examination of a number of units withdrawn as a sample from the lot.

For destination inspection it is not necessary to delay the import inspection until the three mailed copies of the Form MI-410 are received from the customs officer. Inspection may be made upon presentation of the fourth copy and the foreign meat certificate that accompanies the shipment, provided the inspection point shown on the form is the station where the product is presented.

If the shipment has been diverted from its original inspection point, the inspector at the station where the product is presented will not inspect until the importer or shipper arranges for him to contact the station where the first three copies of the Form MI-410 were sent. This can be done by telephone at the importer's expense if he wishes to expedite the inspection. After the inspector has arranged to have the copies of the Form MI-410 forwarded to him, he can proceed with the inspection.

If the fourth copy of MI-410 is received at a station and the import shipment does not arrive within a reasonable time (10 days to 2 weeks) and there is no other information that the shipment has been diverted, then the inspector will notify the Collector of Customs at the port of entry of the nonarrival of the shipment and request that redelivery of the shipment be demanded by Customs under the redelivery bond.

The standard of acceptance will be the same as would apply to acceptable product shipped from a federally inspected establishment. The size of such sample (other than canned products) may be 10 per cent of the lot or a lesser or larger amount at the discretion of the inspector in charge—the size of the sample must be such that the inspector will be assured that it is representative of the lot presented. The inspector must be sure that the selection will give him a cross section of the lot. The selection of packages to be examined will be

done by the inspector. If the examination of the sample discloses that the product is unsound, unwholesome, and otherwise unfit for food, the lot will be refused entry or destroyed for human food purposes.

No major reconditioning, sorting, or rehandling will be permitted by the inspector unless authorized by the Chief Staff Officer for Procedures and Requirements, and in no case will permission be granted for reconditioning of product which has been refused entry for any condition that indicates the product was improperly prepared or certified in the country of origin.

Occasionally products are found to be seriously unacceptable after release by the Meat Inspection Division following the initial import inspection (for example, canned meat products might be found to be underprocessed). In these instances and after counsel with the Washington office, the Collector of Customs may be asked to demand redelivery of the product if it has already been distributed.

Rejected product

(b) The usual methods of handling rejected product are by re-exporting it under Customs custody or by destroying it by incineration or tanking under the supervision of the Meat Inspection Division. If the imported product has been refused because of soilage, contamination, or other reasons that would not preclude its use as an animal food (and such use would not be in conflict with Federal and State laws or regulations), it may be decharacterized by freely slashing the product and coating all surfaces with finely powdered charcoal; by coloring the product with a suitable dye solution; or by grinding the product with coarsely ground hard bone so that the resultant article would be effectively removed from a human food category.

The rejected product must be handled in a manner that will limit our supervision to a minimum at the port or place of inspection. No charge is made for this type of supervision, since it is part of our normal import responsibilities to see that rejected meats are destroyed for human food purposes or re-exported under Customs custody.

If, however, the importer prefers to move the rejected product without decharacterization to an animal food manufacturer or canning plant where it will be used as an ingredient of animal food, such movement and additional supervision may be done by the Meat Inspection Division only on a reimbursable basis. The animal food manufacturer must apply for Animal Inspection and Quarantine Division "Certification of Inedible Animal Byproducts" service as outlined in AIQ Division Memorandum No. 640.13. This arrangement provides for supervision of the rejected article until it is canned or labeled as animal food or otherwise decharacterized.

29.18 The import mark of inspection on horse meat and horse meat products should be applied with green ink by means of a hexagonal import brand when applied directly to the horse meat or horse meat product.

When applied to the container, the regular 2½-inch import brand should be used with the words "Horse Meat" in letters not less than one-half inch in height appearing adjacent to the brand. The markings on containers may be applied by means of regular marking ink.

PART 40—THE IDENTIFICATION, FOOD INSPECTION, AND CERTIFICATION SERVICES

40.1 The Identification Service provides for maintaining the identity of U.S. inspected and passed product (including imported product) as such when it is divided into smaller units at a location other than an official establishment under the supervision of an inspector of this Division. It can be used to apply the marks of inspection to parts removed from a federally inspected carcass, such as beef tenderloins; to parts of a pork loin, a full beef loin, or short loin when divided into two or three parts, etc. It can also be used for the identification of boneless meat, steaks, chops, roasts, and similar size meat cuts taken from fresh carcasses or parts thereof that are identifiable as being federally inspected and passed and so marked and are sound, wholesome, and fit for human food. Sufficient supervision is necessary to carry over to the end product its identification as being U. S. inspected and passed and so marked and properly labeled. Also, adequate attention will be paid to the sanitation, equipment, personnel, etc., in the area used for preparing such cuts.

The mark of inspection is to be applied to the meat or to the container by means of special MID brands furnished by the Washington office, and in no case to be applied by any other means. The identification brand featuring an abbreviation of the station location and the letter "D" is to be used for branding meat and meat food products. Boxes, packages, etc., will be marked with a 2½-inch brand featuring the establishment number assigned to that particular location. The latter brands are constructed so that the numbers are interchangeable.

Filament tape should be placed around boxes and across the top covers of barrels containing unmarked meat. The 2½-inch identification impression will be branded across this tape to form a satisfactory seal against illegitimate tampering.

The identification service may now be used to supervise the preparation of meat for stewing (approximate one-inch cubes—providing grinding of meat is not involved) and to identify consumer-size packages.

Labeling material for meat or meat food products packaged in consumer-size packages will bear the marks of Federal meat inspection as illustrated in Section 17.2(b) of the Meat Inspection Regulations. An establishment number in the 3000 series will be assigned. The

finished label must be approved by the office of Labels and Standards. All labeling material bearing the marks of inspection under the identification service must be delivered to the inspector upon being received from the printer. The labeling material will be inventoried and kept under Department lock or seal at the establishment and will be used only under the supervision of an inspector.

Beef carcasses retained because of cysticercus bovis infestation and hog carcasses frozen for certified pork may be held in freezers at other than federally inspected establishments under the identification service. This permission is granted when the inspector in charge, after examining the facilities is satisfied the retained carcasses can be satisfactorily controlled.

The identification service cannot be used for supervising any processing or meat chopping operations. These activities would need to be done in an establishment operating under Federal Meat Inspection.

40.2

The Certification Service is provided so that we can respond to a request for specific certification for export product which is in addition to the certification contained in our regular export certificate. Examples of the types of certification statements that are to be done under this service are the additional certification required on Form MI-410-11 for lard exported to Germany and which limits the time of production of the lard and other restrictions and statements concerning the origin of animals so that the meat can be certified as being derived from areas free of Vesicular Exanthema. To make these certification statements which are beyond our normal meat inspection responsibilities, requires additional time for which we must be reimbursed—including all time required to obtain the factual information on which to base certain kinds of certificates, and maintain the identity of the product, as well as the time required to make out the certificate. All subsequent varying statements and certifications must be specifically authorized by the Washington office, although the original application will suffice. Any requests with which you are unfamiliar should first be cleared.

40.3

The Food Inspection Service provides for the supervision of the preparation of certain food items containing meat, meat byproducts or meat food products as ingredients, but which are not subject to the Meat Inspection Act. The application for this service should be accompanied by a brief description of the food article proposed to be prepared under this service. A complete description of the method of preparation together with the formula of preparation and a percentage list of the ingredients used must be included. It would also be expedient to include a sketch of the label proposed to be used with the food article.

A facility review will be made by the inspector in charge when instructed to do so after the application has been forwarded to the Washington office. Blueprints of the facility will not be required since the operation of the Food Inspection Service will, in most cases, be on an intermittent basis. In making the review the inspector in charge will apply the same facility requirements as would be accepted for a similar establishment operating under Federal meat inspection or the identification service.

Labeling material for food articles prepared under this service will bear the marks of Federal meat inspection as illustrated in section 17.2(b) of the Meat Inspection Regulations. An establishment number in the three thousand series will be assigned upon approval of the application. The finished label must be approved by the office of Labels and Standards. All labeling material bearing the marks of inspection must be delivered to the inspector upon being received from the printer. The labeling material will be inventoried and kept under Department lock or seal at the establishment and will be used only under supervision of the inspector.

The same basic sanitary requirements will apply as are deemed necessary in establishments operating under Federal meat inspection. Equipment for handling the product must meet the same standards of construction. Employees' conduct and practices and product handling techniques will meet our usual standards of sanitation.

Only U.S. inspected and passed meat, meat byproducts and meat food products will be used as ingredients of the food article. At the time these products are offered as ingredients they must be sound, wholesome and otherwise acceptable. Other ingredients used in the manufacture of the food article must also meet the same standard for wholesomeness necessary for the manufacture of meat food products in federally inspected establishments. When laboratory sampling of ingredients is necessary the inspector should request the laboratory to indicate time to be charged on the form as is done for specification examination work. This laboratory time is reimbursable and will be shown on Form BFD-96-1. Inspection will be continuous when the inspected food article is being prepared, packaged and labeled. Regular export stamps and certificates may be issued at the applicant's request.

40.4 Application for Identification Service, Certification Service, Food Inspection Service and Specification Examination Service should be made on Form MI-416-6. The application for Identification Service should be accompanied by comments from the inspector in charge describing the operation involved and the acceptability of the facilities.

Charges and Preparation of Reports for Service. Charges should be made as outlined in Administrative Memorandum No. 323.1 at established billing rates contained in AM-324.5. Service furnished for an official establishment need not be covered by an advance of funds. However, when the service is to be performed under an advance payment the station office will maintain a record of the hours of service rendered as well as a record of the amount of the advance payment so that service will not be rendered beyond the amount paid for in advance. The advance payment should not be less than enough to cover service for a 2-week period. In case the service is performed under an advance payment, a note to that effect should be made in the remarks column on the BFD-96-1. All food inspection service rendered should be reported on Form BFD-96-1 in the "Other Specify" column at the extreme right of the form. Insert the word "Food" in the heading of the column.

Local transportation cost should not be charged in furnishing the service. However, should it be necessary to travel outside the confines of what is normally considered the station, time spent going to and from the point of inspection as well as any per diem, mileage, or other reimbursable expenses should be charged against the one receiving the service.

The Meat Inspection Division is authorized to certify inedible materials for export on a reimbursable basis for the Animal Inspection and Quarantine Division. In order to do this, two BFD 96-1 forms must be completed. The first form is used to bill the company for the AIQ Division. The second form is used to bill AIQ Division for the work performed by the Meat Inspection Division.

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